

Psychological Bulletin

EDITED BY

SAMUEL W. FERNBERGER, UNIV. OF PENNSYLVANIA

HOWARD C. WARREN, PRINCETON UNIVERSITY (*Review*)

RAYMOND DODGE, YALE UNIVERSITY (*Monographs*)

MADISON BENTLEY, CORNELL UNIVERSITY (*J. of Exp. Psych.*)

WALTER S. HUNTER, CLARK UNIVERSITY (*Index*)

HERBERT S. LANGFELD, PRINCETON UNIVERSITY, *Business Editor*

WITH THE CO-OPERATION OF

G. W. ALLPORT, DARTMOUTH COLLEGE; J. E. ANDERSON, UNIVERSITY OF MINNESOTA; J. E. COOVER, STANFORD UNIVERSITY; W. T. HERON, UNIVERSITY OF MINNESOTA; K. S. LASHLEY, CHICAGO, ILL.; M. F. MEYER, UNIVERSITY OF MISSOURI; R. M. OGDEN, CORNELL UNIVERSITY; R. PINTNER, COLUMBIA UNIVERSITY; E. S. ROBINSON, YALE UNIVERSITY.

SOCIAL PSYCHOLOGY NUMBER

Edited by

G. W. ALLPORT

CONTENTS

General Reviews and Summaries:

Psychology of Religion: A. CRONBACH, 701. *Recent Experiments on Visual Aesthetics:* A. R. CHANDLER, 720.

Special Reviews: 733.

Subject Index: 737.

Author's Index: 738.

PUBLISHED MONTHLY

FOR THE AMERICAN PSYCHOLOGICAL ASSOCIATION

BY THE PSYCHOLOGICAL REVIEW COMPANY

372-374 BROADWAY, ALBANY, N. Y.

AND PRINCETON, N. J.

Entered as second-class matter at the post-office at Albany, N. Y., September 25, 1922

Psychological Review Publications of the American Psychological Association

EDITED BY

HOWARD C. WARREN, PRINCETON UNIVERSITY (*Review*)
MADISON BENTLEY, CORNELL UNIVERSITY (*J. of Exp. Psych.*)
RAYMOND DODGE, YALE UNIVERSITY (*Monographs*)
SAMUEL W. FERNBERGER, UNIV. OF PENN. (*Bulletin*)
WALTER S. HUNTER, CLARK UNIVERSITY (*Index*)
HERBERT S. LANGFELD, PRINCETON UNIVERSITY, BUSINESS EDITOR.

WITH THE CO-OPERATION OF
MANY DISTINGUISHED PSYCHOLOGISTS

PSYCHOLOGICAL REVIEW

containing original contributions only, appears bi-monthly, January, March, May, July, September, and November, the six numbers comprising a volume of about 480 pages.

PSYCHOLOGICAL BULLETIN

critical reviews of books and articles, psychological news and notes, university notices, and announcements, appears monthly, the annual volume comprising about 720 pages. Special issues of the BULLETIN consist of general reviews of recent work in some department of psychology.

JOURNAL OF EXPERIMENTAL PSYCHOLOGY

containing original contributions of an experimental character, appears bi-monthly, February, April, June, August, October, and December, the six numbers comprising a volume of about 500 pages.

PSYCHOLOGICAL INDEX

is a compendious bibliography of books, monographs, and articles upon psychological and cognate topics that have appeared during the year. The INDEX is issued annually in May, and may be subscribed for in connection with the periodicals above, or purchased separately.

PSYCHOLOGICAL MONOGRAPHS

consist of longer researches or treatises or collections of laboratory studies which it is important to publish promptly and as units. The price of single numbers varies according to their size. The MONOGRAPHS appear at irregular intervals and are gathered into volumes of about 500 pages.

ANNUAL SUBSCRIPTION RATES

Review: \$5.50 (Foreign, \$5.75). **Monographs:** \$6.00 per volume (Foreign, \$6.30).
Journal: \$6.00 (Foreign, \$6.25). **Psychological Index:** \$4.00.
Bulletin: \$6.00 (Foreign, \$6.25).

Current numbers: **Review or Journal,** \$1.00; **Bulletin,** 60c.

Review and Bulletin: \$10.00 (Foreign, \$10.50).

Journal and Bulletin: \$11.00 (Foreign, \$11.50).

Review and Journal: \$10.00 (Foreign, \$10.50).

Review, Bulletin and Journal: \$15.00 (Foreign, \$15.75).

Review, Bulletin, Journal, and Index: \$18.00 (Foreign, \$18.75).

Subscriptions, orders, and business communications may be sent direct to the

PSYCHOLOGICAL REVIEW COMPANY
PRINCETON, N. J.

THE PSYCHOLOGICAL BULLETIN

THE PSYCHOLOGY OF RELIGION

A BIBLIOGRAPHICAL SURVEY

BY ABRAHAM CRONBACH

Hebrew Union College

The following bibliographical survey is meant to cover all accessible publications on the psychology of religion that have appeared since January 1, 1926. Psychoanalysis as well as "regular" psychology is included. While much of the matter may be characterized as "descriptive," a great deal of it is controversial and some of it is "practical," the "practical" itself subdividing into the "therapeutic," the "clerical" and the "pedagogical."

DESCRIPTIVE

A volume of outstanding merit for its descriptive—as indeed for many other qualities is "The Psychology of Religion" by Josey (57). The volume follows the best traditions of James, Starbuck, Coe, Ames and Pratt. It handles such themes as the development of religion in society, the development of religion in the individual, belief in God, belief in immortality, conversion, cult practices, preaching and prayer. There is an enumeration of "roads to belief in God" and of "roads to disbelief in God" as well as of "ways in which the belief in God proves itself of value"—an arrangement typical of almost every chapter in the book. While psychoanalysis and other recent departures receive scant attention, the resources of "regular" psychology as well as of every day observation are abundantly and profitably utilized. Hickman's "Introduction to the Psychology of Religion" (51) ranges within the same territory. Also Dimond (37), Mahoney (72), Edward (38), and Jordan (56) discuss religious attitudes and reactions in terms of imitation, suggestion, repression, inhibition, release, instincts, emotions and sublimation.

tions, largely, however, in quotations from Ribot, Stout, James, Hall, Rivers, McDougall and Pratt. Points of methodology are treated by Spier (119), Thouless (124), Vorbrodt (127), Murphy (81), and, above all, by Watson (129).

Flower (43, p. 93), Schilder (104, p. 21) and Popper (90), in slightly diversified ways, find religion rooted in man's experience of and reaction to frustration; while E. Jones (54) repeats the familiar psychoanalytic formulation: "The religious life represents a dramatization on a cosmic plane of the emotions, fears and longings which arose in the child's relation to his parents." That religion involves "the whole man" is the reminder advanced by writers so highly diversified as Edward (38, pp. 24, 97), Mahoney (72, p. 206), De Sanctis (34, p. 252), Hickman (51, pp. 18, 19), and Müller-Braunschweig (80, p. 59).

The diversity of religious types is dwelt upon by Mahoney (72, p. 46), Beth (9, p. 7), Wunderle (139, p. 57), Cleve (29) and Jordan (56, p. 131). Mahoney expands upon the eight-fold division enunciated by Professor Richardson of Northwestern University—traditionalist, critical, mystic, executive, dogmatic, ritualist, ascetic, reformer. Beth's classification is: mass religion vs. Individual religion; religion of the master type vs. religion of the slave type; religion of the self-sufficient vs. that of the disconsolate; inspiration vs. tradition; religion concealing vs. that dissolving the sense of inferiority; otherworldly vs. this worldly religion; religion of health vs. that of sickness; of sexual sublimation vs. sexual suppression. Wunderle sees on the one hand a religion of humility, dependence and fear; on the other hand, a religion of love. Cleve quotes Adolf Stöhr's five *Gundtriebe*—self-preservative, sexual, altruistic, diabolical, and, grouped together as drainage devices for excess stimulation, aesthetic interest, habit maintenance, novelty and constructiveness. Jordan bases himself on Bain's classification of belief into reasoned, emotional and volitional.

A number of publications discuss the relation of religion to insanity (30, 104, 109, 125). Schou (109), himself a psychiatrist, cites numerous cases of melancholia, manic-depressive insanity, and paranoia in which persons are affected by religious preoccupations while in these states though indifferent to religion when normal—a phenomenon also brought out by Thrift's study of Cowper (125). Schou thinks that "the frequency of religious ideas in cases of

insanity . . . is related to the primitive character of the religious life" (109, p. 132).

The subject of sin is approached from a variety of directions (4, 79, 82, 91, 97, 109, 127). Vorbrodt (127, p. 96), like Neumann (82), an exponent of Alfred Adler's *Individualpsychologie*, discovers the "original sin" in the assertiveness that grows out of the inferiority complex—a view also advocated by Povah (91, p. 79). Neumann regards the beatitudes as an antidote to the inferiority complex, sin being, in his view, neurosis; and conversion, healing (82, pp. 19–22). Reik (97) holds that the "religious declaration of sensuality and lust as sin serves not only the purpose of cultivating a proper sense of guilt but also tends to aid in the enhancement of instinctual gratification." Schou (109) notes a number of cases in which the conviction of unpardonable sin is bound up with the pathological condition of melancholia.

Bjerre (17), drawing on some of his own experiences, exhibits the working of restorative forces in the unconscious and the bearing of these upon such concepts as sacrifice, contemplation, prayer, grace and holiness. Similarly, the Freudian discrimination of the It, the I am the Super-I furnishes Müller-Braunschweig (80, pp. 56–61) with psychoanalytic explanations of freedom, grace and dependence on God. De Sanctis (34), in his study of conversion, subtly traces six distinct factors as predisposing to that occurrence.

Mahoney (72, p. 101), like Starbuck (122), Maréchal (73), Jones (55), Phohl (89), and Fargeo (40), interested in mysticism, discusses the purgation, illumination, ecstasy and trance of mysticism but offers little insight into underlying psychological causes. The same omission marks Tillyard's exposition (126) of the theories, postures, rituals, phrases, formulæ, breathings, etc., employed by Hindu, Buddhist and Mohammedan as well as Christian mystics to induce the mystic state. Masson-Oursel (74) deals with a similar theme, while Lamprecht compares mysticism with art (68, p. 711).

Strikingly abundant is the anthropological matter (28, 32, 34, 43, 44, 45, 61, 83, 91, 94, 98, 111, 119, 126). Povah conjectures a factor determinative of Jewish religious unfolding to have been the grammar and syntax of the Hebrew language. The serpent of Moses he takes to represent the libido and the lifting of the serpent-rod to have signified sublimation—a conclusion which he believes confirmed by libido dreams of to-day (91, pp. 7, 190). "The leaders of the country," he writes, "doubtless intensified the social evils which they

could not remedy as a defense reaction against listening to the teachings of the prophets" (p. 146). Róheim's (98) elaborate inquiry into moon mythology, like Daly's (32) into Hindu myths, proceeds under Freudian viewpoints to such an extent that the waxing and waning of the moon is related by Róheim to the erections of the male and the menstruations of the female. The Œdipus complex figures in From's study of the Sabbath (44) and in Fromm-Reichmann's study of the Jewish dietary (45) as well as in Reik's disquisition on Christian dogmas (96). Soil (*i.e.*, mother earth), we are apprised, symbolizes the mother; plowing symbolizes sexual intercourse. The prohibition of plowing on the Sabbath thus amounts to an expression of remorse for the incest longing. The Jewish dietary restrictions are found to be associated, directly or indirectly, with horned animals, hence with the sexual prerogatives of the father who is represented by horned animals; while the punishment inflicted by the father upon the incestuous son is presumed to be signified, through a number of removes, by the seething of the calf in its mother's milk (Exodus 23, 19: 34, 26; Deuteronomy 14, 21). Fromm-Reichmann offers corroboration of these views from Jewish patients of her own who, in the presence of forbidden food, experience sexual excitement, erection and orgasm. Reik discerns in all dogmas and in the controversies, bigotries and persecutions revolving around dogma, a neurotic compromise between rebellion and submission. "Die Glaubensvorstellungen entsprechen den Zwangsvorstellungen, die Dogmen den Zwangsideen und jene Ueberlegungen, Begründungen, Konklusionen welche die rationale Theologie liefert, den Delirien der Menschheit in ihrer religiösen Entwicklung" (96, p. 378). Similar is Schlesinger's theme (105). Dimond's history of Methodism (37) also reveals the prevalence of sexual components.

Even more copious is the biographical matter. Our list contains biographies of St. Augustine (106), Paracelsus (120), Sankara Acharya and Meister Eckhart (86), George Fox (43, Chap. V), Johann Christoph Blumhardt and Gottlibin Dittus whom he cured of hysteria (112), John Wesley (37), Knut Hamsun (1), Therese Neumann of Konnersreuth (36, 77, 132), Friedrich Stanger (140), Anna Schmidt (70), Johannes Binggeli (100), Anton Unterwahrer (100), Ludwig Christian Häusser (134), and William Cowper (125). Therese Neumann is an amazing contemporary instance of stigmatization. Every Friday, while visualizing incidents of the Passion, she bleeds profusely from the eyes, hands and feet. Dr. v. Weisl (132) professes himself unable to account adequately

either for this phenomenon or for a prior one in the life of Therese when, for a succession of months, she appears to have refrained totally from food and drink. Friedrich Stanger (born 1855) was a reformed drunkard and reprobate who, among many celebrated acts of healing and rehabilitation, founded and still maintains at Möttlingen the *Rettungsarche*, a kind of home and hospital for the sick and derelict where religious influences are astonishingly potent. Johannes Binggeli and Anton Unternährer were colossally oversexed Swiss sectarians. Binggeli "liess seinen Penis als 'Büchse Christi' verehren, er urinierte *coram publico*, seinen Urin nannte er 'Himmelstropfen' oder 'Himmelsbalsam' und verteilte ihn unter seinen Anbeter die ihn innerlich und äusserlich verwendeten gegen Krankheiten und Anfechtungen. . . . Manchen seiner Anhänger wusste er mächtig zu imponieren dadurch dass er nach Belieben roten, blauen, grünen Urin lassen konnte. Ja Binggeli liess seinen Urin sogar als Abendmahlwein trinken" (100, p. 418). Binggeli is reputed to have cured a woman of aneuria by cohabiting with her (p. 417). "Auch mit anderen Schwestern der Waldbruderschaft (the organization which he headed) hatte er verkehrt und manche von ihnen wollten von ihm prophylaktisch behandelt werden, was er ihnen nicht abschlug" (*ibid.*). Of Anton Unternährer (born September, 1739), Rorschach writes: "Alles ist bei ihm desublimiert. Die Tendenz die sich durch die ganze phylogenetische Entwicklungsgeschichte hindurchzieht, die Tendenz der Sexualverdrängung ist auf den Kopf gestellt. Nur das Sexuelle ist Lebenszweck . . . ein Gottwohlgefälliges Sakrament . . . ein wahrhaftes Priestertum" (100, p. 426). Unternährer's "New Jerusalem" described in one of his twenty writings, is an abode of complete sexual non-restraint while Hell is depicted as reserved for those who disparage sex (p. 430).

Closely akin to biography are the numerous case studies. Reference has already been made to the Jewish dietary cases of Frieda Fromm-Reichmann (45) and to the mental derangement cases of Schou (109). One of Watson's admirable works on religious pedagogy is devoted entirely to case studies (128). The celebrated theologian, Rudolph Otto, offers case studies of three children who were suddenly overtaken by what Otto is famed for calling "the sense of the numinous" (85). Beth scrutinizes extensively not only the case of P. N. (12) but also the case of Olga with her quaint religious misconceptions—Jesus pictured as a huge hen, "conceived by the Holy Ghost" construed to mean politely greeted by a gentle-

man named "Holy Ghost" (11). (The German word "empfangen" denotes both "receive" and "conceive.") Miss Chadwick explores psychoanalytically the creator phantasies and subsequent artistic ambitions of a boy and of a girl behind which, naturally, lurk the wish for the death of the father and for the propitiation of the Deity (26). Hinsie (52) examines intensively two psychiatric cases which apparently confirm the psychoanalytic doctrine that the desire for heaven burgeons from an unconscious longing for a return to the womb. Lyon's article (71) is a case study of a Mohammedan priest and Sarma's (101) that of a Hindu. Jacob, David and Paul are topics for Anderson (3) who, while perhaps an able psychiatrist, is hardly to be commended as an exegete. Jacob's dream, David's insanity (I Samuel 21, 13) and Paul's vision are his sources of inference regarding "incestuous fixations" and "strong narcissistic tendencies" in Jacob, "neurotic and psychopathic reactions" in David, and "a fairly typical hysterical reaction" in Paul. From a different angle, Beth considers the mentality of the Biblical Joseph (10). With Schroeder (110), the occasion of a characteristic assault upon religion is the religious self-revealing of an anonymous clergyman. While Radin provides the autobiography of the Indian, Crashing Thunder (93), Oliver's novel "Fear" (84) contains the fictitious autobiography of a James Edwards. Bjerre (17), like the anonymous author of "*The Unpardonable Sin*" (4), is himself the case he investigates. College students are the objects of questionnaire inquiry by Matthews (75), by Bain (6), and by Schneider (107). Schneider records the answers of three German students and of three American students who were asked to describe their responses to the statements: "God is nothing but power and will," "God is perfect rest," and "God is infinite kindness."

CONTROVERSIAL

There are but few publications on our list that are entirely free from controversy. This condition is largely due to the irrepressible tendency of writers on psychology to stray into metaphysics. The output of such men as Wieman (135, 136, 137), Binder (16), Woodburne (138), and Chanson (27), while containing much psychological matter is so predominantly occupied with the metapsychological as almost to make the propriety of their inclusion in our list debatable. "Probably no psychological writer," says Thouless (124, p. 102), "quite manages to emancipate himself from his own metaphysical affirmations." Others have made similar observations (39,

p. 50; 56, p. 97; 43, p. 187. Random examples of metaphysicizing are (72, pp. 67, 110; 123, p. 33; 56, pp. 14, 99; 105; 57, p. 96; 38, pp. 165, 166; 95, Chap. VII; 22, p. 268). In various ways and wordings, the "objective validity" of the predications studied is brought into consideration.

This very practice is among the bones of contention. While, on the one hand, Baker holds that "it is not the business of psychology in any of its departments to attack or defend the objective truth of religion" (7, p. 176), Streeter urges that "it is pure waste of time to ask the meaning of psychological data in religious experience or belief unless one has first answered the question whether, apart from these data, the existence of God is a probable or improbable hypothesis" (123, p. 269) and Pratt who is presumably above all *ex parte* pleading suggests that "subjective worship depends on objective conviction and will fade if the objective fades (92)."

Another object of defense is psychology itself and particularly psychoanalysis. Elliott is concerned to show "that psychology does not make a genuine religious faith impossible" (39, p. 75) and that the psychologist "feels that he is learning more of God as he comes to know the divine laws in human personality and that he is helping to reveal the individual's divine power" (39, p. 48). Similarly Jordan commends the psychological approach to religion for its "purifying effect upon religious experience" (56, p. 19), "for its large social value" and for its contribution to church work (p. 22). Müller-Braunschweig (80), like Schultz (113, p. 28), would refute the charge that psychoanalysis is inseparable from irreligion and immorality. He insists that convictions such as those of personal responsibility (80, p. 56), of "grace from above" and dependence on a Higher Power (p. 59) receive, from psychoanalysis, fresh validation. Closely related to this is the claim, variously worded, that a forerunner of modern practical psychology was Jesus (39, pp. 27, 37; 82; 117).

The defense of religion itself proceeds along various lines. One is that of dispelling the suspicion that religion is a cause of psychoneuroses. Especially detailed and convincing is Schou (109). "Religious influence," he says (pp. 120, 121), "is, according to modern psychiatrists, a rare, very rare cause of insanity." Only from $\frac{1}{2}$ per cent to 1 per cent of the cases in a large Danish asylum were found by him to have a religious etiology (pp. 119, 120). Schou mentions Dr. P. D. Koch who cannot, from his own experience, "quote a single case where religious influence or emotion gave rise to insanity."

Rather does Schou discover reason to maintain that "religion is a safeguard against insanity" and to agree with Oppenheimer whom he quotes to the effect "that religion offers a strong, albeit by no means certain support in the struggle against those powers which attack the nervous system." Streeter performs the *volte face* of inferring health precisely from the phenomena commonly regarded as morbid:

"The austerities endured and the lives lived year after year by some of the saints were enough to kill an ordinary person in six months. Somehow and somewhere these people must have secured some special enhancement of vitality and this at least suggests the possibility that in Religion itself there is a health creating power which may go some way to counteract a psychoneurosis which has originated in some other cause" (123, p. 277).

That religion has a disturbing effect is a charge which draws from Boisen (19) the reply that disturbance is salutary and curative for some mental conditions. Flower reminds us that "there are psychaesthenics in other walks of life besides religion" (43, p. 119).

Nor is religion the result of neurosis (7, Chap X; 22, p. 268; 30; 43, p. 199). Brown (22) brings as evidence his observation that analysis which cures the neurosis makes the patient not less religious but more so. The others take up the challenge flung by Freud and by Martin in their characterization of religion as a "flight from reality." Tillyard (126, p. 192) points out that Freud's patients and perhaps Freud himself were sexual neuraesthenics; hence the dubiousness of some of Freud's conclusions.

Edward meets the innuendo that religion is a mere product of mass suggestion by indicating that "there is actually, at the present time, a very strong force of mass suggestion in favor of secularism, so-called rationalism and irreligion" (38, p. 161). With like intent, Streeter differentiates between "true" prayer and "merely pious autosuggestion," by stressing the former's moral and aesthetic superiority (123, p. 292). Jordan also urges that, to explain the benefits of prayer, factors other than autosuggestion must be admitted (56, p. 105). Edward (38, p. 192), Jordan (56, p. 25) and Baker (7, p. 165) further take pains to combat the assertion that religion is "a mere fantasy construct" and the idea of God "a mere projection of the individual's wishes." Their arguments consist in drawing certain distinctions which the opposition is accused of having overlooked. To defend the efficacy of prayer, Streeter (123, p. 297) even invokes telepathic phenomena.

Then there is the defense of religion against what may be called

illogical inference. One writer reminds us that irrational ideas are not necessarily false ideas (38, p. 157) and that suggestion and emotion are not the same as invalidation (*ibid.*, p. 184). Another discriminates between the "truth of an idea" and the "mechanism of its acceptance" (123, p. 289). That "the manner in which spiritual results are achieved is immaterial in comparison with their value" (109, p. 213) and that "it is arbitrary and illogical to deny the superior value of a religious mood because it can be shown to have an organic cause" (*ibid.*, p. 214) is the plea of yet another. Josey argues that "the objective being or reality of God does not stand or fall with any particular conception held of God" (57, p. 120) and R. M. Jones that "the method of psychological diagnosis which is believed to destroy the objective validity of mystical experience would also destroy all objective validity in every field of experience" (55). Objection, finally, is raised to the "fallacy of psychologism" which is "at bottom the claim that that which is an unnecessary hypothesis for psychology is an illusion" (38, p. 170).

Pragmatic pleas in favor of religion are that the efficacy of prayer would be greatly diminished if objective belief were destroyed (38, p. 151) and that "the horrors of the World War can be traced back to the teachings which set at naught the revealed truths of the Eternal God" (121, p. 93). This same volume (121, p. 39) marshals pragmatic considerations not only in defense of religion but also of older psychological views which are deemed more favorable to religion than the newer ones. "We have heard of not a few cases of deplorable moral delinquency on the part of youths who had been taught that 'conditioned reflexes' rather than personal choices are responsible for all phases of human conduct" and "if consciousness has no influence over conduct the effort to lodge an aversion to evil therein is of course wasted effort" (p. 72).

In some instances the attack is carried into the domain of the "enemy." The "enemy" is charged with metaphysicizing. "Certain scientists," comments one of our writers, "have joined with their scientific findings a mechanistic interpretation of life. But in so doing they are no longer scientists but are philosophers and theologians" (39, p. 50). Jung is accused of "committing an encroachment of psychopathology on the realm of philosophy and theology" (43, p. 187). Psychoanalysis is arraigned on various counts (7, 22, 28, 34, 95). De Sanctis calls attention to the psychoanalytic studies of rituals, ceremonials, customs, etc., and brands these as "an interpretation of 'external' facts based upon the experience drawn

from the psychoanalysis of a few individuals and availing itself of easy generalizations" (34, p. 20). Brown censures "the fallacy . . . of explaining the normal mind in terms of the abnormal without first giving an adequate theory of the distinction between normal and abnormal" (22, p. 68) and, again, "the whole question of faith in terms of infantile experience is based upon an original postulate. It is not necessarily based on facts at all" (*ibid.*, p. 277). The most trenchant critic of psychoanalysis is Baker (7) who, in his Chapter X, attacks Freud's *Totem and Taboo*, Jung's *Psychology of the Unconscious* and Martin's *Mystery of Religion*. "Freud's explanation is as plausible as any other but it has no evidence for it at all" (p. 159). "Sex may be as important in life and religion as Freud holds it to be but he will hardly find proof of it in the recorded words and acts of Jesus" (p. 164). "'The psychological fatality of ambivalence demands its right' he (Jung) continues, for great is jargon and those who sacrifice to no other gods make their offerings to it" (p. 165). "Nobody would have taken the trouble to assert the close connection between religion and the sex instinct except with the desire to discredit religion" (p. 176).

The assailants of religion are Moxon (79), Reik (96), Kamiat (58, 59, 60), and Schroeder (110). Reik's essay is one long brilliant ridicule of religion. Kamiat's attitude is divulged by his titles. Religion is by him identified with "flights from the world" (60, p. 223), "compensations for inferiority" (58, p. 218), "delusions of infallibility" (58, p. 218; 59, p. 304), "phantasy" (58, p. 218), "world-phobia" (60, p. 223), the "fantastic" (60, p. 223), "frivolous theological questions and quibbles" (60, p. 231), "compulsion neurosis" (60, p. 231), a "swollen sense of importance" (59, p. 310), the "insane" (59, p. 310). Schroeder's effusion is a series of psychoanalytic jeers at the mystic deliverances of an anonymous clergyman whom Schroeder sees fit to quote at length. Schroeder is dogmatically certain that "God is the creature of our subjective but unconscious determinants."

THE PRACTICAL

The subject matter that we designate as practical admits of subdivision into (1) the therapeutic, (2) the clerical and (3) the pedagogical.

1. Besides the publications concerned preponderantly with religio-therapy (30, 53, 64, 84, 113, 117), some of the biographies deal extensively with religio-therapy, especially those of Blumhardt (112), Stanger (140), Binggeli (100), and Therese Neumann (132). Brown

(22) has an entire chapter (Chap. XXI, Suggestion and Faith) devoted to the topic. Schou, who specifically considers how certain forms of insanity can be helped by the religious approach (109, Chap. IV), goes so far as to say that "anything in which the patient confidently believes can cure the disease" (p. 173). Schultz calls attention to the superior efficacy of mass movements like Stoicism, Christian Science, etc., as compared with individual neuropsychiatric treatment (113, p. 22). Oliver's story "*Fear*" (84) tells of a business man in whom a medical pronouncement of high blood pressure had produced a fear that proved well nigh ruinous. Restoration comes after a long period of treatment in a sanitarium where religious convictions are inculcated. The successful psychiatrist in the story (who happens to be a fervent believer in the doctrines of Christianity) makes the religious reminiscences which are profoundly impressive to himself similarly impressive for his patient.

2. Bearing upon the practical tasks of the clergyman, the types of counsel offered are manifold. Josey (57) presents valuable reflections on preaching (Chap. X), on prayer (Chap. XII), on asceticism (Chap. XI), and on other cult practices (Chap. IX); similarly Jordan (56, p. 123) who, like Rohrbaugh (99, p. 160) and a few others, dilates on the difference between subjective worship and objective; and like Elliott who accounts somewhat sermonically for the failure of some prayers to become fervent (39, p. 72). Tillyard's book (126) is not merely a description of breathings, postures, etc., that have been used to generate mystic states, it is also a guide for such as wish to avail themselves of those possibilities. The evils of excessive self-mortification (72, p. 96), the dangers of misusing the unconscious (18), the advantages of skepticism (72, p. 125), the importance of respecting and utilizing the intellect (91, pp. 109-111; 56, p. 95), the banefulness of melodramatic conversion (57, Chap. VIII; 56, p. 95) and the benefits of adult religious education (91, pp. 109-111) are among the matters handled. One author who believes ritualism to be "dangerous as its overuse may be a hindrance to the power and spontaneity of the spiritual life" at the same time holds that Catholic "churches are filled because the people have a large part in the services" (72, p. 91).

The obligation of the clergy to use the discoveries of psychology is the central theme of Gruehn (49) and Buntzel (23). Nor are we surprised to find a psychoanalyst advising that the clergy learn about psychoanalysis at least enough to distinguish a normal difficulty which belongs to the clergyman's province from the morbid with which

none but a psychiatrist can cope (80, p. 63). It is similarly matter of course when a follower of Alfred Adler pronounces the *Individual-psychologie* to be paramount (82, p. 31). Meanwhile Schultz cautions that, for diagnosis and treatment, only the expert is fitted (113). Particularly for the confessional work of the Catholic clergy, is psychological knowledge recommended (56, p. 76). A detailed account of the way in which a Protestant chaplain functioned in behalf of a Catholic soldier who had committed suicide fills a lengthy article in *Religionpsychologie* (62). Even the bearing of psychology on the question of church union is, in one instance, considered (56, p. 158).

Küssner reports (67) that the English working people are alienated from the church although given to demonstrations of religion outside of the church and that, contributing largely to this condition, was the church's support of the war. Certain individual clergymen who are notable friends of labor have, among the workers, a considerable following. In Germany, according to Frühauf (46), the wretched post-war conditions degraded the workers to a level at which higher interests exert scant appeal. With but few exceptions and qualifications, the church is abhorred by the toiling masses and is frequented, if at all, by their women and children. The few religious observances that survive are matters of routine habit. The solution of the problem awaits improvement of industrial conditions and the increase of educational opportunities. Hope is seen in the large number of educated persons who, owing to economic vicissitudes, have been shunted into the laboring ranks. Through the somewhat different strands of inquiry followed by Baillie (5), Braithwaite (21), and Mennicke (76), attitudes unfavorable to organized religion are also revealed.

3. As indicated by the titles, religious education is the concern of a number of entire works (2, 24, 41, 42, 121, 128, 129, 130, 131). The subject also occupies parts of other works (as 72, Chap. XI). Thouless believes that "the question of what kind of religious teaching (if any) will enable a child to attain a harmonious adaptation to the demands of life is a problem of greater practical urgency than the adequate classification and understanding of the mystical states of St. Therese" (124, p. 110). Among the tendencies disparaged are shortsightedness (121, p. 71), premature theologizing (56, p. 50) and the inculcation of morbid fears (115, p. 63). "It is the height of folly to treat a child as a little sinner until he has realized the sense of sin" (56, p. 53). Again, "We must feel the child's joy in life, his growing wonder, his ceaseless activity, the romance of his

first words and struggles" (*ibid.*, p. 41). The Watson publications (128, 129, 130), themselves models of scientific method, are an inspiration toward the application of scientific method in religious educational procedure and the abandonment of guess work "mythology."

Interesting are the pedagogical innovations of Felden, a liberal pastor of Bremen (41). Felden presents a careful study of juvenile attitudes, both affirmative and negative, on the subject of God and expounds a method for leading the child from crude conceptions to higher ones. His formula is, "Es gälte das Kind *erleben* zu lassen: Alleinheit und Liebe."

APPRAISAL

On the whole, the caliber of this literature is not high. The great masters, James, Starbuck, Coe, Ames, Pratt, Hall, McDougall, having spoken, what we have to-day, as Leroux (69) intimates, is mostly the feeble echo of their imitators and quoters. While some of the publications on our list (46, 57, 96, 109, 132 and a few others) are distinctly worth while, most of what one reads is boggy and foggy. The psychology of religion, barring the best achievements of psychoanalysis, is still at a level analogous to that of chemistry when the four elements were hot, dry, moist and cold. But, aside from this, the tendency to generalize from a few instances or from one instance and often from no instances at all is widespread. Again, that psychologizing should drift off into philosophizing may be inevitable but one's scientific expectations suffer a more serious disappointment when psychologizing strays into polemicizing, apologizing and sermonizing. The philosophizing itself is platitudinous and unconvincing. Terms like "reality," "objectivity," "objectified," "illusory," "projection" are bandied about with a childlike non-concern for defining either their sense or their consequence. The questions "What is objectivity?" and "Why do we need objectivity?" are not raised. Excepting where Josey writes: "The possibilities of a religion founded even on a materialistic view are not to be despised," or where Edward writes: "I have not used the term 'belief' because I wished in the definition to avoid as far as possible identifying religion with any of its aspects" (38, p. 24), we encounter little intimation that religion may coincide with interests higher and deeper than that of defending one hypothesis against another. That there may be in religion something to which believing and disbelieving are alike subordinate is a surmise which rarely breaks through the

cut and dried assumption that to believe one thing is religious and to believe something else irreligious. One toils through this literature with the feeling that the old leads are well nigh exhausted and that the time is ripe for renewal and fresh discovery. Less quotation and more observation—also less theologizing and more adventuring—is the need of the hour.

BIBLIOGRAPHY

1. ADOLF, E., *Knut Hamsun's Veranlagung und Weltbild*. No. 13 infra, Vol. III, pp. 22-28. (See Beth and Braunmüller.)
2. AMENT, W. S., Religion, Education and Distinction. *Sch. and Soc.*, 1927, 26, 399-406.
3. ANDERSON, F. A., Psychopathological Glimpses at the Behavior of Some Biblical Characters. *Psychoanal. Rev.*, 1927, 14.
4. ANON., The Unpardonable Sin. *The Nation*, 1927, 124, 579-580.
5. BAILLIE, J., *The Roots of Religion in the Human Soul*. Doran, N. Y., 1926.
6. BAIN, R., Religious Attitudes of College Students. *Amer. J. of Sociol.*, 1927, 32, 662-770.
7. BAKER, A. E., *Psychoanalysis Explained and Criticized*. Macmillan, N. Y., 1926.
8. BERGMANN, W., *Religion und Seelenleiden*. Schwann. Düsseldorf, 1926.
9. BETH, K., *Die Aufgaben der Religionspsychologie*. No. 13 infra, Vol. I, pp. 4-14.
10. BETH, K., *Der Josephkomplex*. *Ibid.* Vol. II, p. 156ff.
11. BETH, K., Die Religiöse Entwicklung einer Weiblichen Seele. *Ibid.* I, pp. 106-145.
12. BETH, K., Religiöse Lebenserinnerungen des Rektors, P. N. *Ibid.* Vol. III, pp. 1-21.
13. BETH, K., and BRAUNMÜLLER, W., Editors. *Religionspsychologie. Veröffentlichungen des Wiener Religionspsychologischen Forschungsinstitutes*. Wien und Leipzig.
14. BETH, M., Zur Psychologie des Glaubens. In No. 13 supra. Vol. II, pp. 111-133; Vol. III, pp. 60-84.
15. BIEGER, J., Gottesbegriff. *Grundwiss. Phil. Zeits. des Johannes-Rehmke Gesellschaft*, 1927, 7, 136-139.
16. BINDER, R., *Religion as Man's Completion*. Harper, New York, 1927.
17. BJERRE, P., The Way to Grace. *Psychoanal. Rev.*, Vol. 14, No. 3, July, 1927.
18. BLUM-ERNST, A., *Die Uebermacht des Unterbewusstes*. Bahn. Schwerin i. Mecklb., 1926.
19. BOISEN, A. T., Evangelism in the Light of Psychiatry. *J. of Religion*, 1927, 7, 76-80.
20. BOWER, W. C., and WIEMAN, H. N., Experiments in Personal Religion. Religious Experience Through Crises in Individual Growth and Social Experience. *The Institute*, Univ. of Chicago, 1928.

21. BRAITHWAITE, R. B., *The State of Religious Belief*. Hogarth, London, 1927.
22. BROWN, W., *Mind and Personality*. Univ. of London Press, London, 1926.
23. BUNTZEL, W., *Die Psychoanalyse und ihre Seelsorgerliche Verwertung*. 1926.
24. BURET, I., *L' Education Religieuse de l' Enfant*. Bonne Press, Paris.
25. CANESI, A., *Ricerche preliminari sulla psicologia della preghiera. Contri. del lab. di psicol. e biol.* Milan, 1926.
26. CHADWICK, M., *Die Gott-Phantasie bei Kindern*. *Imago*, 1927, 13, 383-394.
27. CHANSON, *Étude de Psychologie Religieuse sur les Sources et l' Efficacité de la prière dans l' Expérience Chrétienne*. Riviére, Paris.
28. CLEMEN, C., *Die Anwendung der psychoanalyse auf Mythologie und Religionsgeschichte*. Akad. Verlagsgesellschaft, Leipzig, 1928.
29. CLEVE, F., *Religion und Charakter, Versuch einer Arbeitshypothese*. In No. 1 supra. Vol. I, pp. 27-41.
30. COURBON, P., *Sur la Pensée Mystique et la Pensée Morbide*. *J. de Psychol.*, 1927, 24, 146-159.
31. CRONBACH, A., *The God Affirmation in the Light of Social Psychology*. *Hebrew Union Coll. Monthly*, 1927.
32. DALY, C. D., *Hindu-Mythologie und Kastrationskomplex*. (Aus dem englischen Manuscript übersetzt von Peter Mendelssohn.) *Imago*, 13, 1927, 145-198.
33. DASGUPTA, S. N., *Hindu Mysticism*. Open Court, Chicago, 1927.
34. DE SANCTIS, S., *Religious Conversion*. (Trans. by H. Augur.) Harcourt, Brace & Co., New York, 1927.
35. DEARBORN, G. V. N., *The "Two-love Question"; an Example of Unconscious Erotic Symbolism*. *J. Abnor. and Soc. Psychol.*, 1927, 12, 62-66.
36. DEVARANNE, T., *Die Stigmatisierte von Konnersreuth*. *Christliche Welt*, 1927, 41, 917-923.
37. DIMOND, S. G., *The Psychology of the Methodist Revival*. Oxford Univ. Press, 1926.
38. EDWARD, K., *Religious Experience*. T. & T. Clark, Edinburgh.
39. ELLIOTT, H. S., *The Bearing of Psychology on Religion*. Association Press, N. Y., 1927.
40. FARGEO, A., *Mystical Phenomena*. (English trans.) London, 1926.
41. FELDEN, E., *Kind und Religion*. In No. 13 supra. Vol. I, pp. 106-117.
42. FISCHER, A., *Religionspsychologische Untersuchungsmethoden im Dienst von Kinderforschung und Pädagogik*. *Zeits. f. Pädagog. Psychol.*, 1927, 28, 10-19; 74-80; 141-152.
43. FLOWER, J. C., *An Approach to the Psychology of Religion*. Paul, Trench, Trubner, 1927.
44. FROM, E., *Der Sabbath*. *Imago*, 1927, 13, 223-234.
45. FROMM-REICHMANN, F., *Das Jüdische Speiseritual*. *Imago*, 1927, 13, 235-246.
46. FRÜHAUF, W., *Die Religion der Industriearbeiter aus dem Grunde ihres Milieus Dargestellt*. No. 13 supra. Vol. II, pp. 47-100; Vol. III, pp. 85-144.
47. GRUEHN, W., *Karl Girgensohn, Seine Religionspsychologische Entwicklung*. *Arch. f. d. ges. Psychol.*, 1926, 55.

48. GRUEHN, W., *Religionspsychologie*. Jedermann's Bücherei, 1926.
49. GRUEHN, W., *Seelsorge im Licht der Gegenwärtigen Psychologie*. Bahn, Schwerin in Mecklb., 1927.
50. HAJOS, L., Die Religion als Behelf der Psychotherapie. *Psychiat.-Neur. Woch.*, 1927 29, 49.
51. HICKMAN, F. S., *Introduction to the Psychology of Religion*. Abingdon, New York, 1926.
52. HINSIE, L. S., Psychoanalysis and Heaven. *Psychoanal. Rev.*, 1926, 13.
53. JOHNSTON, D. K., *Religion und Wissenschaftliches Heilfahren. Ein Psychoanalytische Führer*. Bahn, Schwerin i. Mecklb.
54. JONES, E., The Psychology of Religion. *Brit. of Med. Psychol.*, 1927, 6, 264-269.
55. JONES, R. M., *New Studies in Mystical Religion*. Macmillan, New York, 1927.
56. JORDAN, G. J., *A Short Psychology of Religion*. Harper, New York, 1927.
57. JOSEY, C. C., *The Psychology of Religion*. Macmillan, New York, 1927.
58. KAMIAT, A. H., The Cosmic Phantasy. *Psychoanal. Rev.*, 1928, 15.
59. KAMIAT, A. H., Further Remarks on the Believer's Delusion of Infallibility. *Psychoanal. Rev.*, 1926, 13.
60. KAMIAT, A. H., A Psychology of Asceticism. *J. Abnorm. and Soc. Psychol.*, 1928, 23.
61. KELLET, E. E., *The Story of Myths*. Harcourt, Brace, New York, 1927.
62. KIRCHNER, V., *Eine Interkonfessionale Handlungsweise an einem Selbstmörder während des Weltkrieges im Felde Selber Nebst ihren Begleiterscheinungen*. No. 13 supra. Vol. IV, pp. 83-111.
63. KNABE, E. K., *Die Sexuelle Frage und der Seelsorger*. Bahn, Schwerin in Mecklb. 1926.
64. KÜNKELE, F., *Psychotherapie und Seelsorge*. Bahn, Schwerin i. Meckl. 1926.
65. KUPSKY, O., *The Religions Development of Adolescents*. (Trans. by W. C. Trow.) Macmillan, New York, 1928.
66. KURZ, M., Reihen, Gruppen und Netze Religiöser Vorstellung. *Katake-tische Blätter*, 1927, 28, 385-400.
67. KÜSSNER, K., *Arbeiter und Religion in England*. No. 13 supra. Vol. II, pp. 1-46.
68. LAMPRECHT, S. P., A Type of Religious Mysticism. *J. of Philos.*, 1927, 24.
69. LEROUX, E., The Philosophy of Religion in French Speaking Countries from 1914-1925. *Monist*, 1927, 37, 24-49.
70. LOWTZKY, F., Bedeutung der Libidoschicksale für die Bildung Religiöser Ideen. ("Das dritte Testament" von Anna Nikolajewna Schmidt.) *Imago*, 1927, 13, 84-121.
71. LYON, S. P., A Moro Fundamentalist. *Asia*, 1927, 27, 112.
72. MAHONEY, C. K., *The Religious Mind*. Macmillan, New York, 1927.
73. MARÉCHAL, J., *Studies in the Psychology of the Mystics*. (Trans. by A. Thorold.) Burns, Oates and Washbourne, London, 1927.
74. MASSON-OURSSEL, P., Les Techniques Orientales de la Concentration. *J. de Psychol.*, 1927, 24, 87-92.
75. MATTHEWS, M. T., A Written Reproduction Test for the Lord's Prayer. *Sch. and Soc.*, 1927, 26, 240-242.

76. MENNICKE, C., Das Proletarische Massenbewusstsein und die Katolische Kirche. *Schildgenossen*, 1927, 7, 335-340.
77. MESSMER, J., *Die Stigmatisierte Seherin*. Räber, Leipzig, 1927.
78. MOERS, M., Zur Psychologie des Neuerlebnisses. *Arch. f. d. ges. Psychol.*, 1926, 40.
79. MOXON, C., *Freudian Essays in Religion and Science*. Richard G. Badger, Boston, 1927.
80. MÜLLER-BRAUNSCHWEIG, C., *Das Verhältnis der Psychoanalyse zur Ethik, Religion und Seelsorge*. Friedrich Bahn, Schwerin in Mecklb. 1927.
81. MURPHY, G., A Note on Method in the Psychology of Religion. *J. of Philos.*, 1928, 25.
82. NEUMANN, J., *Psychiatrische Seelsorge im Licht der Individualpsychologie*. Bahn, Schwerin in Mecklb. 1927.
83. NIEBERGALL, F., *Religionspsychologisches zum Gesangbuch*. No. 13 supra. Vol. III, pp. 39-59.
84. OLIVER, J. R., *Fear. The Autobiography of James Edwards*. Macmillan, New York, 1927.
85. OTTO, R., *Religiöse Kindheitserfahrungen*. No. 13 supra. Vol. I, pp. 99-105.
86. OTTO, R., *West-Östliche Mystik*. Klotz, Gotha, 1926.
87. PFISTER, O., *Religion, Wissenschaft and Psychoanalyse*. Alfred Töpelman, Giessen, 1927.
88. PHELPS, W. L., *Adventures and Confessions*. Scribners, New York, 1926.
89. PHOHL, E., *Die Psychologie der Religiösen Mystik*. Von James H. Leuba. J. F. Bergman, Munich, 1927.
90. POPPER, S., *Die Grundlagen des Religiösen Gefühles*. Anzengruber, Vienna, 1927.
91. POVAH, J. W., *The Old Testament and Modern Problems in Psychology*. Longmans, Green, London, 1926.
92. PRATT, J. B., *Objective and Subjective Worship*. No. 13 supra. Vol. I, pp. 42-48.
93. RADIN, P. (Editor and Translator), *Crashing Thunder, the Autobiography of an American Indian*. Appleton, New York, 1926.
94. RATTRAY, R. S., BENNETT, G. D., BLAKE, V., BUXTON, H. D., MARRETT, R. R., and SELIGMAN, C. G., *Religion and Art in Ashanti*. Clarendon Press, Oxford, 1927.
95. RAVEN, CHARLES E., *The Creator Spirit*. Hopkinson, London, 1927.
96. REIK, T., Dogma und Zwangsidee. *Imago*, 1927, 13, 247-382.
97. REIK, T., The Unconscious Feeling of Guilt as a Libidinal Factor. *Tenth Internat. Psychoanal. Congress*, Innsbrück, Austria, Sept. 1-4, 1927.
98. RÖHEIM, G., Mondmythologie und Mondreligion. *Imago*, 1927, 13, 442-537.
99. ROHRBAUGH, L. G., *The Science of Religion*. Holt, New York, 1927.
100. RORSCHACH, H., Zwei Schweizerische Sektentifter. *Imago*, 1927, 13, 395-441.
101. SARMA, D. S., The Experience of Sri Ramakrishna. *J. of Religion*, 1927, 7, 186-203.
102. SCHAIRER, I. B., *Die Nacht des Unbewussten und die Macht des Christentums*. Steinkopf, Stuttgart, 1927.

103. SCHAUB, E. L., *The Psychology of Religion in America During the Past Quarter-Century. J. of Religion*, 1926.
104. SCHILDER, P., *Religionspsychologische Probleme in Psychiatrischer Beleuchtung*. No. 13 supra, Vol. I, pp. 15-26.
105. SCHLESINGER, B., *Zwangshandlungen und Religionsübung. Jahrbuch f. Psychiat. u. Neurol.*, 1927, 45, 63-79.
106. SCHMAUS, M., *Die Psychologische Trinitätslehre des Heiligen Augustinus*. Schendorff, Münster i. Westf. 1927.
107. SCHNEIDER, C., *Experimentelle Studien zum Gotteserleben*. No. 13 supra, Vol. IV, pp. 51-62.
108. SCHNEIDER, C., *Gibt es einen Religiösen Menschen? Beiträge zur Rel. Individualpsychologie auf Experimenteller Grundlage. Christentum und Wissenschaft*, 1926.
109. SCHOU, H. I., *Religion and Morbid Mental States* (Trans. by W. Worster). Century, New York, 1926.
110. SCHROEDER, T., *Manufacturing "The Experience of God."* *Psychoanal. Rev.*, 1927, 14.
111. SCHULTZ, W., *Bedeutungswandel im Mythos*. No. 13 supra, Vol. I, pp. 75-90; Vol. II, pp. 134-155.
112. SCHULTZ, I. H., *Psychotherapeutische Bemerkungen zu Johann Christoph Blumhardt*. No. 13 supra, Vol. I, pp. 65-74.
113. SCHULTZ, I. H., *Psychiatrie, Psychotherapie und Seelsorge*. Bahn, Schwerin i. Meckl. 1926.
114. SCHWEITZER, C., Editor of series "Arzt und Seelsorger," published by Bahn, Schwerin i. Mecklb. Supra Nos. 49, 63, 64, 80, 82, 113 and infra Nos. 116 and 117 belong to this series.
115. SELBIE, W. B., *Religion as a Factor of Mental Development*. No. 13 supra, Vol. I, pp. 62-64.
116. SENG, H., *Die Heilungen Jesu in Medizinischer Beleuchtung*. Bahn, Schwerin i. Meckl. 1926.
117. SENG, H., *Zur Frage der Religiösen Heilungen*. Bahn, Schwerin i. Meckl., 1926.
118. SIZER, I., *The Pueblo Religion*. No. 13 supra, Vol. III, pp. 145-153.
119. SPIER, L., *The Association Test as a Method of Defining Religious Concepts. Amer. Anthropol.*, 1927, 29, 267-270.
120. SPUNDA, F., *Die Religiösität des Paracelsus*. No. 13 supra, Vol. III, pp. 154-171.
121. SQUIRES, W. A., *Psychological Foundations of Religious Education*. Westminster, Phila., 1926.
122. STARBUCK, E. D., *An Empirical Study of Mysticism. Proceedings, 6th Int. Cong., Phila.*, 1926. Longmans, Green, New York, 1927.
123. STREETER, B. H., *Reality, a New Correlation of Science and Religion*. Macmillan, New York, 1927.
124. THOULESS, R. H., *The Methods and Problems of the Psychology of Religion*. No. 13 supra, Vol. II, pp. 101-110.
125. THRIFT, I. E., *Religion and Madness. Psychoanal. Rev.*, 1926, 13.
126. TILLYARD, A., *Spiritual Exercises*. Masmillan, New York, 1927.
127. VORBRODT, P. G., *Arbeitsprogramm für Zukünftige Religionspsychologie*. No. 13 supra, Vol. I, pp. 91-98.

128. WATSON, G. B., and WATSON, G. H., *Case Studies for Teachers of Religion*. Association Press, New York, 1926.
129. WATSON, G. B., *Experimentation and Measurement in Religious Education*. Association Press, New York, 1927.
130. WATSON, G. B., What Tests Can We Use in Church Schools? *Religious Educ.*, 1928, 23, 213-219.
131. WATTERHOUSE, E. S., *The A B C of Psychology for Religious Education*. Revell, New York, 1927.
132. WEISL, W. v., *Zwischen Religion und Krankheit. Das Problem der Stigmatisierten Jungfrau Therese Neumann von Konnersreuth*. No. 13 *supra*, Vol. IV, pp. 1-50.
133. WEIZSÄCKER, V. v., *Seelenbehandlung und Seeleneinführung. Studien des Apologetischen Seminars*. Bertelsmann, Gütersloh, 1926.
134. WEYGANDT, W., Zur Psychopathologie der Sektenbildung. *Bekhterev Fortieth Anniversary Commemorative Volume*, 1926, pp. 663-680.
135. WIEMAN, H. N., How Religion Cures Human Ill. *J. of Religion*, 1927, 17, 263-276.
136. WIEMAN, H. N., *Religious Experience and Scientific Method*. Macmillan, 1926.
137. WIEMAN, H. N., *The Wrestle of Religion With Truth*. Macmillan, 1927.
138. WOODEBURNE, A. S., *The Religious Attitude*. Macmillan, New York, 1927.
139. WUNDERLE, G., Die Differenzielle Psychologie und ihre Bedeutung für die Religionsethnologie. No. 13 *supra*, Vol. I, pp. 49-61.
140. ZÖLLER, F., *Die Möttlinger Bewegung*. No. 13, *supra*, Vol. IV, pp. 63-82.

RECENT EXPERIMENTS ON VISUAL AESTHETICS

BY ALBERT R. CHANDLER

Ohio State University

In this review, papers published before 1925 will be mentioned only for purposes of comparison. Reference should be made to the reviews on feeling and emotion by Gates (11) and Washburn (38).

The work of von Allessch (1) seems to the present reviewer to render obsolete nearly all other work on the aesthetics of color. The study of his paper should be prerequisite to the formation of further experimental projects in this field. His work was both extensive and intensive. He experimented from 1904 to 1914 or later, and his manuscript was not submitted for publication till 1924. His observers were numerous, and many individuals continued to participate in his experiments for many years. Many observers gave exceptionally copious and subtle introspections. He carried his technique to a high degree of refinement.

Earlier experimenters had assumed that there is a basic agreement, at least in a given cultural group, as to the relative pleasantness of single colors and the relative harmoniousness of color pairs, and that this agreement could be disentangled from disturbing factors (supposed to be of minor importance). To be sure the results of their experiments were chaotic, but von Allessch at first hoped to secure more uniform results by refining upon the conditions of experimentation. However, the most careful and thorough work served only to emphasize the fact that observers disagree sharply, and that each observer contradicts himself with reference to all sorts of colors—preferring x to y, y to z, but z to x, etc. Neither art historians and painters, on the one hand, nor servant girls, on the other, render consistent judgments. In color pairs, no particular distance in the circle of hues, no particular degree of contrast in brightness, was a marked favorite over others for the whole group of observers.

Von Allessch therefore abandoned the pursuit of averages and studied the varieties of total effect of single colors and paired colors, with reference to the effects of sequence, background, verbal suggestion, and the subjective factors revealed by introspection.

Even in judgments as to hue, value, and saturation, he found

relativity. What on one occasion was judged to be a "pure" red was judged by the same observer at another time as purplish or yellowish. The same colors may be seen as unitary or complex; *e.g.*, "a very dark yellow," or "black with a golden gleam on it."

Variety and inconsistency were still greater when he came to study the manifold "meanings" or "expressions" of color, such as dimness, paleness, harshness, vigor, warmth, cheerfulness, aggressiveness, expansion, and their opposites. In this field his work reminds one of Stefanescu-Goanga (32) and Bullough (5, 6, 7), neither of whom he mentions although their work was published before his. His work seems superior to theirs in many respects; nevertheless a comparison of methods and results, and of the concepts used in interpreting the results, would have been helpful.

With reference to types of observer, von Allessch did not arrive at any such simple classification as Bullough's four types. He found some observers noting certain groups of effects most frequently; other observers, other groups of effects. Some observers noted a more varied range of effects than others. Some observers were affected in one way by continuing the experiments through several years, others in other ways.

A pair of colors, he found, is not merely pleasant or unpleasant as a whole. The "expressions" of the component colors, and an interplay between them, are involved. Emphasis may fall on one of the colors, as helped or hindered by the other, or upon the pair as presenting similar, supplementary, or discordant expressions. "Harmony" has many varieties. Here a correlation with Bullough's results (7) would have been especially appropriate.

The relation of expressive traits like activity, warmth, sadness, etc., to objective features of the stimulus was elastic in the extreme. Almost every combination of hue, value, and saturation received contradictory judgments like active and passive, warm and cool. But it is not true that *every* color can have *every* effect. Although "cheerful" and "sad" often turned up unexpectedly, grayish, whitish, and blackish colors were rarely "cheerful" and the most saturated colors were never "sad." Saturated red, orange, and yellow, also dark yellow, were never "cool," but the only colors never called "warm" were blue in its saturated and medium or light unsaturated nuances.

With the aid of verbal suggestion a given "expression" could be

spread over regions of color that never spontaneously evoked it. But even to this there were limits. "Joyousness" (*Froehlichkeit*) could be stretched to include dark blues but observers make such reports as "there is no more dancing" or "the joy becomes like organ music."

The effects of background were carefully studied, using black, white, and twenty-two steps of neutral gray. Saturated colors show their varied expressions most fully when the background is a gray slightly lighter or darker than the color. Against light backgrounds they become lifeless and flat; against very dark backgrounds they become brutal and harsh. Less saturated colors are also most expressive against a background not too sharply contrasted in value. With too much contrast in *either* direction they become lifeless and flat. Light colors are best against a little darker gray, dark colors against a little lighter gray. The same principles apply to the backgrounds for pairs of colors, if the components of the pair are not sharply contrasted in brightness. But if the pair presents a brightness contrast, the background should be of intermediate brightness.

In interpreting his results, von Allesch develops important and subtle conceptions of *Niveau* (level or standard of comparison), *Gefaelle* (trend), and Category. For instance, our standard of what is typically green varies with circumstances. A given stimulus, call it yellow-green, will be assigned to the category "green" if our temporary standard is not too remote in hue; but its trend is away from green, the yellowish tone is conspicuous and the color is likely to be regarded as an active and cheerful green. But if the temporary standard of green is more remote, and the temporary standard of yellow is nearer, the same stimulus may be assigned to the category "yellow" but the trend being toward green, the effect may be that of a muddy and inert yellow. This is one of the reasons for which colors sometimes seem complex.

In the light of such considerations the pleasantness or unpleasantness of a color is seen to be no simple matter. It may be determined by some of the above expressive effects plus the harmony or discord between the "expression" of the color and the abiding temperament or temporary mood of the observer. A certain red was called "strong, healthy, happy" by one observer, "dazzling, reckless, brutal" by another. Both observers recognized the color as aggressive; but the mood or temperament of one led him to sympathize with the aggres-

siveness, while the mood or temperament of the other led him to be repelled by it.

The experiments of von Allesch demonstrate the pervasive relativity of color effects to background, sequence, subjective standards, temperament, and mood. To use a fixed background or a fixed sequence throughout an experiment with colors is not to find the normal effect of the colors, but to place an artificial restriction upon a normal variability of effect. To take the bare preferences of numerous observers and average the results, is to run the risk of averaging dissimilar things and arriving at numbers which are not the number of anything.

When Winch (41) secured color preferences based on the presentation of the mere names of the colors, he treated subjective "standards" or "categories" as if they were objective. Observers do not agree as to what is a typical red, nor as to where blue leaves off and green begins. The "red" which one pupil prefers to "blue" may not be the same as the "red" which another pupil ranks below "blue." When Garth (9, 10) presented small bits of color on white cards there was a fixity of pattern and background which artificially limited the effects. Yellow, for instance, may not do itself justice on a white ground. To like a color so presented does not guarantee a liking for it in a majority of its occurrences in art and nature, nor a liking for other nuances of the "same" color.

Gesche (13), Hurlock (15), Hirohashi (14) and Shikiba (31) continue the types of experiment popularized by Winch and Garth. A table comparing some of the results of these and other studies is appended.

When Hirohashi used actual colors instead of names with a few observers, the results were seriously altered, contrary to the experience of Michaels (27).

Shikiba found that the following subgroups were exceptional in giving red first place: boys convicted of arson, manic patients, morphine addicts.

Hirohashi found that in grades I to VI in certain Japanese schools red and yellow are more favored by the younger pupils than the older ones.

Gesche (13) found among Mexican children in the schools of San Antonio, Texas, that red, yellow and green are more favored by younger children than older ones, while blue is more favored by older children than by younger ones.

TABLE

Order of Preference

Jastrow (18), 4,556 observers. Prang papers. (His 2,746 men put B 1st, R 2nd; his 1,810 women put R 1st, B 2nd).....	B, R, V, G, Y, O.
Schulte (30), "large audience." Zimmermann papers	V, B', R', B'', R'', R' ", Y, G, O.
Washburn (36), 35 college girls. Bradley papers on white. Saturated colors	R, GB, OR, V, (OY, BV), ¹ (VB, B), VR, RO, (YO, BG), Y, (RV, G), (O, YG), GY.
Light tints	B, (RV, V), BV, VB, YG, G, (GB, OR), (BG, RO, R), YO, (Y, OY), O, GY, VR.
Dark shades	YG, B, (R, VB), (BV, GB, G), V, (RO, OR), VR, (RV, GY, YO, O), BG, OY, Y.
Geissler (12), Bradley papers on gray. 61 women.....	G, (R, BG), (P, Y), O, B.
61 men.....	B, (P, G), R, Y, O.
Garth (9), Bradley papers on white; 1,000 white children.....	B, (G, R, V, O), Y, W.
Garth (10), Bradley papers on white; 559 full blood Indians.....	R, B, V, G, O, Y, W.
Mercer, H. G. (25), Bradley papers on white; mixed blood Indians.....	R, B, V, G, O, Y, W.
Mercer, F. M. (24), Bradley papers on white; 1,006 negro children.....	B, (O, V, G, R), Y, W.
Gesche (13), Bradley papers on white; 1,152 Mexican children.....	R, G, B, V, O, W, Y.
Katz and Breed (19), Bradley papers on white; 2,500 observers:	
Children, grades I-VIII.....	B, G, R, V, Y, O.
College men	B, G, (R, V), O, Y.
College women	G, V, B, R, Y, O.
Shikiba (31), 247 deranged or delinquent Japanese; Zimmermann papers.....	B, R, V, G, Y, O.
Imada (16), Zimmermann papers on white; 1,170 Japanese children: Grades I-VIII	B, R, G, Y, V, O.
Including 526 girls.....	R, G, V, etc.
and 644 boys.....	B, Y, O, etc.
Mizuguchi & Aoki (28), Zimmermann papers on gray; 249 Japanese adults	B, V, Cobalt, GB, R, Pink, G, YG,

¹ Parentheses enclose colors of equal or nearly equal rank.

	Crimson, GY, W, Scarlet, BK, O, Gray, Y, OY.
Including 144 men.....	B, Cobalt, GB, V, Pink, etc.
and 105 women.....	V, R, GB, Cobalt, B, etc.
Winch(41), color list (sample results)	
285 girls, "School F," Grade III.	B, R, Y, W, G, BK.
Grades IV, V, VI.....	B, R, W, G, Y, BK.
Grades VII, VIII	B, R, G, W, Y, BK.
297 Boys, "School OK," Grades III, IV, V.....	R, B, Y, G, W, BK.
Grades VI, VII, VIII.....	B, R, G, Y, W, BK.
Hurlock (15), color list:	
114 white boys.....	B, Pink, W, (V, R), Crimson, P, (G, O, Y, Gray), Brown, BK.
80 white girls.....	B, Pink, V, G, (R, Crimson), W, (Brown, P, Gray), (Y, O), BK.
142 negro boys.....	B, V, Pink, (Crimson, O), G, (R, Brown, W, P), (Y, Gray), BK.
64 negro girls.....	B, Pink, G, (R, P, Y, O), (Brown, W, V), (Crimson, Gray, BK).
Michaels (27):	
27 V grade boys in one New York city school, color list.....	V, R, B, O, Y, G.
Same 27 boys eight days later, Bradley papers on white.....	V, R, B, O, Y, G.
88 V grade boys in another New York city school, Bradley papers on white	B, O, R, V, Y, G.
Hirohashi (14), color list; Japanese pupils:	
1,056 girls Grades VII-XII.....	W, BK, B, G, R, Y.
1,035 boys, Grades VII-XII.....	G, B, W, R, Y, BK.
444 men, normal schools.....	G, W, B, R, Y, BK.
Dorcus (8), Munsell colors; 1,235 subjects of assorted ages, includ- ing 430 college men, 401 college women:	
More saturated colors.....	B, O, P, G, R, Y.
Less saturated colors.....	B, P, G, O, R, Y.

Dorcus (8) sought to determine the effect of saturation on color preference, and the varieties of associations with color. The colors were presented in pairs for comparison, and then the series was repeated with the positions of the colors reversed as to left and right. Reversals of preference as between the two series amounted to 20 to 30 per cent among college students; reversals were still more plentiful among children and the aged, and more variable among the

groups of psychopaths. In view of many split preferences and the reversals just noted, Dorcus concludes, "we must be rather skeptical as to whether there is such a thing as color preference." The present reviewer would suggest, in view of the work of Bullough, Stefanescu-Goanga, and von Allesch, that there are *many preferences*, depending on many variable factors.

With reference to associations the following conclusions were drawn: saturated colors evoke more associations than unsaturated colors; more associations are evoked in women than in men; women report more associations in the field of dress than in any other field.

Kido (20) experimented with five adults, using Wundt's R, Y, B, G papers singly and in pairs. Only one of the subjects gave the order of preference for the pairs that would be due to the pleasantness of their components. This supports Washburn's conclusion (37) as against Geissler's (12).

Metcalf (26) experimented with preferences among brightness combinations. Each figure consisted of a 1-inch square, the "center," upon a 3-inch square, the "background"; these were made up from black, white and three shades of gray papers, in all possible combinations. These figures were displayed against a "field" of black, white, or medium gray. The order of preference was as follows:

One-step combinations of two grays.

Two-step combinations.

Three-step combinations.

One-step combinations containing BK or W.

The four-step combination, BK and W.

It should be remembered that these "steps" are long, since four of them reach from black to white.

The field had a marked effect. It would seem to the present reviewer a mistake to use a "field" which matches the "background" as often happened in this experiment. The conclusions of von Allesch in regard to background deserve consideration in all future experiments.

The relation of each observer's preferences among the colors seen singly to his preferences among the pairs was worked out. Two observers rated pairs solely in order of strength of contrast, and rated single colors according to their contrast with the "field"; they therefore showed no correlation between the two series. For the other 22 observers, the pleasantness of the components seemed to be a factor, but not the sole factor, in preference among pairs. This again supports Washburn's conclusion (37).

Mogensen and English (29) sought to determine whether the alleged apparent warmth of colors is such as to produce illusions as to the warmth of colored objects that we touch. Their conclusions were negative. So far as there was any suggestion of such illusions they were produced by colors in the following order (from warmest to coolest): G, B, O, Y, R, P, which is quite contrary to artists' classifications of colors as warm and cool.

Warden and Flynn (35) experimented with color-size and color-weight illusions. Cartons of different colors but of the same size were arranged in rows. The observers had to estimate their sizes. "The color-size illusion, under the present conditions, did not depend on the intrinsic quality of the color nor upon the contrast effect of the immediate context, but, as would appear, upon the specific serial arrangement." The color-weight illusion was more marked. (The observers had to estimate the weights without touching the cartons.) The ranking of the colors according to their power to produce the illusion of weight was as follows: BK, R (P, Gray), B, G, Y, W. Nothing is stated as to the relative brightness of the Hering papers used, although Bullough (5) attributed weight mainly to the inverse influence of brightness.

Koch (21) investigated the apparent weight of colors by means of a balanced arrangement of color disks on a movable rod. Her conclusion is that the results are due more to chance than to any effect of apparent weight. So far as the lumped results from six observers suggested any such factor, the order of apparent heaviness would be: G, BK, Medium Gray, R, B, W, Y.

Belaiew-Exemplarsky (2) investigated illusions due to the "advancing" quality of colors. Red is the color most frequently judged to be nearer than it really is; then in order follow yellow, green, blue, white, black, and gray. Blue and white gave nearly identical results. Introspectively, some colors seemed solid, others liquid or atmospheric. A disturbing factor in judging the apparent distance of blue was its tendency to seem to pervade the atmosphere in front of it.

Brandt (3) investigated the memory-values of colors as applied to advertising, and obtained results which may have some general aesthetic significance. She used R, G, Y, V for different features of advertisements. Some of her conclusions are as follows:

"Color appears to direct attention toward the particular parts of a page where color is used, and so tends to strengthen the likelihood that those parts will be remembered" (p. 44).

"The colored parts of an advertisement are, however, emphasized only at the expense of the others. Thus an uncolored feature of an advertisement in which color is used elsewhere, has a poorer chance of being remembered than the same feature would have if it appeared upon an entirely uncolored page" (p. 44).

Red was superior in facilitating the recall of specific features; green and yellow variable; blue markedly inferior (pp. 47-50).

If there is such a thing as animal aesthetics, two notes by Walton (34) and Bretnall (4) may be regarded as contributions to it. Walton found that earthworms are indifferent to red light but withdraw from blue. Bretnall exposed earthworms to light passed through a prism, yielding the array of spectral colors. "As they moved to get away from the light they always went out the red end. This reaction occurred with every worm except one. This worm lay full length in the green and stayed there. I was not able to repeat this last reaction." (Perhaps even earthworms have their moods.)

Experiments on visual form and on pictures seem to be far fewer than those on color in the past few years.

Weber (39) formed a "complexity preference series" of seven drawings of cross-forms of varying complexity. These were presented for choice by the method of paired comparison. The results were correlated with the observers' scores for apperception based on tests with the Heilbronner cards. The following correlations were obtained:

Year	Cases	r	P.E.
1925.....	62	plus .392	.072
1926.....	48	plus .412	.080

Correlations with college grades and with intelligence test scores were much lower. When coverlet designs were used the correlation with the apperception score was likewise much lower. (It is not surprising that complex forms are more popular among good apperceivers than among poor apperceivers. But it would be a mistake if any one inferred that the good apperceiver will normally prefer the more complex of two figures; he can appreciate the complexity of the one, but he may admire the simplicity of the other.)

Lund and Anastasi (23) performed several series of experiments with linear figures. One hundred and thirty psychology students of Barnard College served as subjects. In some cases the subjects were asked to improve a figure by adding lines; in other cases they had to

choose between a single figure and other figures consisting of repetitions of it. The subjects in general showed a preference for balanced, rhythmical, and "significant" figures. The authors interpret their results in terms of facilitation through preparedness. But it would be a mistake if such experiments were supposed to invalidate Bacon's dictum that "There is no excellent beauty that hath not some strangeness in the proportion." (Essay XLIII—Of Beauty.)

Wells (40) and Symmes (33) sought to determine the speed with which feelings with reference to pictures are formed in different groups of observers and in the case of different types of pictures. Wells found that his two women subjects reacted more rapidly than his three men. Pictures of women's faces were judged more promptly than those of men's faces. Only one of the observers (a man) judged the attractiveness of landscapes more promptly than that of women's faces. Symmes used 103 observers, and found the men reacting more quickly than the women, contrary to Wells' result with a small group. Pictures of buildings were judged a little bit more promptly than landscapes; color papers were judged far more promptly than either. The groups of observers having more education reacted more promptly. Neither experimenter sought to correlate the character of the individual pictures with the character of the feelings evoked.

Israeli (17) showed 20 colored reproductions of landscape paintings to 11 observers, who recorded whatever emotions they felt. From their records a list of 23 adjectives (and names of emotions) was formed. The pictures were then shown to 400 other observers, who had before them the list of adjectives and were directed to select one or more of these adjectives to indicate the emotions aroused.

The experimenter gives tables (unfortunately containing some misprints or clerical errors) of all the adjectives assigned to the same picture by more than 10 per cent of the observers. These percentages rose as high as 68.1 and the average (disregarding percentages under 10) was 22.6. College students showed a closer agreement than high school and art students. Lowell (22) had found that "in the affective reactions to lines the percentage agreement increased with intelligence and age." The same was true here except for the low degree of agreement among graduate art students.

Israeli concludes that his observers "behave very much alike." This seems an overstatement in view of such data as the following:

Picture	Adjective Series	Per Cent Agreement
2	tumult	16.3
	depression	16.1
	excitement	11.7
	calmness	11.5
7	tumult	20.0
	excitement	16.9
	depression	11.1
	calmness	10.0
9	tumult	21.4
	sprightly	14.7
	calmness	12.7
	excitement	10.4
15	calmness	34.2
	sprightly	25.4
20	tumult	13.3
	excitement	10.1
	calmness	10.0

Such results indicate that the decorator has no easy task in selecting pictures that would be soothing or stimulating to a client.

No attempt is made in this study to correlate the emotional effects with objective features of the pictures or to trace the subjective motives of the observers. Even when observers agree in finding a picture exciting, they may be excited for different reasons.

BIBLIOGRAPHY

1. ALLESCH, G. J. VON, Die aesthetische Erscheinungsweise der Farben. *Psychol Forsch.*, 1925, 6, 1-91, 215-281.
2. BELAIEW-EXEMPLARSKY, S., Ueber die sogenannten "hervortretenden" Farben. *Zeit. f. Psychol.*, 1925, 96, 400-429.
3. BRANDT, E. R., The Memory Value of Advertisements with Special Reference to Color. *Arch. of Psychol.*, 1925, No. 79, pp. 69.
4. BRETNALL, G. H., Earthworms and Spectral Colors. *Science*, 1927, 66, 427.
5. BULLOUGH, E., On the Apparent Heaviness of Colors. *Brit. J. Psychol.*, 1907, 2, 111-152.
6. BULLOUGH, E., The Perceptive Problem in the Aesthetic Appreciation of Single Colors. *Brit. J. Psychol.*, 1908, 2, 406-463.
7. BULLOUGH, E., The Perceptive Problem in the Aesthetic Appreciation of Simple Color Combinations. *Brit. J. Psychol.*, 1910, 3, 406-447.
8. DORCUS, R. M., Color Preferences and Color Associations. *Ped. Sem.*, 1926, 33, 399-434.
9. GARTH, T. R., A Color Preference Scale for One Thousand White Children. *J. Exper. Psychol.*, 1924, 7, 233-241.

10. GARTH, T. R., The Color Preference of 559 Full Blood Indians. *J. Exper. Psychol.*, 1922, 5, 392-418.
11. GATES, A. I., Feeling and Emotion. *Psychol. Bull.*, 1922, 19, 183-191.
12. GEISSLER, L. R., The Affective Tone of Color Combinations. *Studies in Psychology contributed by colleagues and former students of E. B. Titchener*. Worcester: 1917, 150-174.
13. GESCHE, I., Color Preferences of 1,152 Mexican Children. *J. Comp. Psychol.*, 1927, 7, 297-311.
14. HIROHASHI, B., Some Experiments on Beauty of Color. *Jap. J. Psychol.*, 1926, 1, 406-432. (*Psychol. Abstr.*, 1928, 2, No. 2691.)
15. HURLOCK, E. B., Color Preferences of White and Negro Children. *J. Comp. Psychol.*, 1927, 7, 389-404.
16. IMADA, M., Color Preference of School Children. *Jap. J. Psychol.*, 1926, 1, 1-21. (*Psychol. Abstr.*, 1927, 1, No. 1042.)
17. ISRAELI, N., Affective Reactions to Painting Reproductions: A Study in the Psychology of Aesthetics. *J. Appl. Psychol.*, 1928, 12, 125-139.
18. JASTROW, J., The Popular Aesthetics of Color. *Pop. Sci. Mo.*, 1897, 50, 361-368.
19. KATZ, S. E., and BREED, F. S., The Color-Preferences of Children. *J. Appl. Psychol.*, 1922, 6, 255-266.
20. KIDO, M., Feeling Manifestation on Harmony in Colors and Tones. *Jap. J. Psychol.*, 1926, 1, 433-452. (*Psychol. Abstr.*, 1928, 2, No. 2692.)
21. KOCH, B. C., *Color Weight*. M.A. Thesis, Ohio State Univ., 1926, unpublished. Pp. 38 and plates.
22. LOWELL, M. P., *Age Difference in Affective Reaction to Lines*. M.A. Thesis, Columbia Univ., 1926, unpublished; cited by Israeli (17).
23. LUND, F. H., and ANASTASI, A., An Interpretation of Aesthetic Experience. *Amer. J. Psychol.*, 1928, 40, 434-448.
24. MERCER, F. M., Color Preferences of 1,006 Negroes. *J. Comp. Psychol.*, 1925, 5, 109-146.
25. MERCER, H. G., *The Color Preferences of Mixed Blood Indians*. Thesis, Univ. of Texas, 1923, unpublished; cited by Gesche (13).
26. METCALF, J. T., The Pleasantness of Brightness Combinations. *Amer. J. Psychol.*, 1927, 38, 607-623.
27. MICHAELS, G. M., Color Preference According to Age. *Amer. J. Psychol.*, 1924, 35, 79-87.
28. MIZUGUCHI, F., and AOKI, S., Color Preference of Adults. *Jap. J. Psychol.*, 1926, 1, 22-33. (*Psychol. Abstr.*, 1927, 1, No. 1043.)
29. MOGENSEN, M. F., and ENGLISH, H. B., The Apparent Warmth of Colors. *Amer. J. Psychol.*, 1926, 37, 427-428.
30. SCHULTE, R. W., Ueber die Wohlgefälligkeit von Farben- und Dreifachfarbverbindungen. *Zts. f. angewandte Psychol.*, 1924, 24, 42-50. (*Psychol. Bull.*, 1925, 22, 513-514.)
31. SHIKIBA, T., Color Preferences of Deranged Persons and Delinquent Boys. *Jap. J. Psychol.*, 1927, 2, 677-700. (*Psychol. Abstr.*, 1928, 2, No. 2694.)
32. STEFANESCU-GOANGA, F., Experimentelle Untersuchungen zur Gefuehlsebetonung der Farben. *Psychol. Stud.*, 1911, 7, 284-335.
33. SYMMES, E. F., Aesthetic Preferences by Comparison with Standards. *Amer. J. Psychol.*, 1927, 38, 432-435.

34. WALTON, W. R., Earthworms and Light. *Science*, 1927, 66, 132.
35. WARDEN, C. J., and FLYNN, E. L., The Effect of Color on Apparent Size and Weight. *Amer. J. Psychol.*, 1926, 37, 398-401.
36. WASHBURN, M. F., A Note on the Affective Value of Colors. *Amer. J. Psychol.*, 1911, 22, 114-115.
37. WASHBURN, M. F., The Relation of the Pleasantness of Color Combinations to that of the Color Seen Singly. *Amer. J. Psychol.*, 1921, 32, 145-147.
38. WASHBURN, M. F., Feeling and Emotion. *PSYCHOL. BULL.*, 1927, 24, 573-595.
39. WEBER, C. O., Theories of Affection and Aesthetics of Visual Form. *Psychol. Rev.*, 1927, 34, 206-219.
40. WELLS, F. L., Reactions to Visual Stimuli in Affective Settings. *J. Exper. Psychol.*, 1925, 8, 64-76.
41. WINCH, W. H., Color Preferences of School Children. *Brit. J. Psychol.*, 1909, 3, 42-65.

SPECIAL REVIEWS

K. SCHJELDERUP. *Die Askese, eine religionspsychologische Untersuchung*. Berlin: Walter de Gruyter and Co., 1928. Pp. vi+249.

The author of this important book became convinced that historical studies of religion and merely descriptive and analytical psychological inquiries leave undone the most important scientific task in this field, namely the attainment of a dynamic, causal knowledge. One regrets that he seems to think, at times at least, that nothing has been done and can be done in that direction without the psychoanalytic theories. The author is not ignorant of scientific psychology and the use he has made of psychoanalytic conceptions has been tempered wisely enough to lead to valuable results. Whereas the preceding studies of asceticism recognize almost exclusively the surface motives, or those which the ascetics themselves, in agreement with the traditional religious ideas, accept as the true motives, Schjelderup endeavors to bring into the light of day suppressed, hidden motives, regarded by him—and it seems to me usually correctly—as either important accessories or as the leading motives.

After a general introduction, including a discussion of the conception of asceticism, the book takes up in successive chapters the Motives of Asceticism, Its Effects, Asceticism and Mysticism, and finally its Religio-Ethical Value.

JAMES H. LEUBA.

Bryn Mawr College.

J. C. FLOWER. *An Approach to the Psychology of Religion*. Oxford: Harcourt, Brace, 1927. Pp. xi+248.

This book is in substance a Ph.D dissertation. Its thesis is set forth and defended in the first two chapters. The rest of the book, and particularly the next three chapters ("A Study of the Religion of the Winnebago Indians"; "The Peyote Cult Among the Winnebago"; "George Fox") is intended as a demonstration of its validity. The concluding chapter ("Psychopathology and Religion") contains, in addition, criticisms of the views of Jung and of Everett D. Martin on the nature of religion.

The definiteness of Dr. Flower's thesis and the admirable clarity with which it is presented and defended, make it possible, and it

seems to me profitable, sharply to join issue with him. The thesis may be briefly presented: There was a point in the passage from animal to man when, because of his power of discrimination, near-man, or possibly man, realized the inadequacy of his habitual ways of meeting certain situations. They were recognized as beyond his instinctive or habitual response-equipment. It is in the presence of such situations that the religious attitude arises (22).

I see no reason for disagreeing with Flower when he affirms that new forms of behavior, new types of adaptation, follow upon the realization of the inadequacy of the established forms. That is something of a truism, but Flower does not stop there. He does not affirm that whatever comes out of the bafflement and emotion due to the presence of a not-understood situation,—a situation which we are not prepared to meet satisfactorily—is necessarily religion. On the contrary, he holds that situations of that sort are “the source of a great deal more than religion.” If the new situation is finally understood and brought within the class of situations of which we have control, the response to which it gives rise is not religious. It deserves that name only when the situation preserves an element of mystery, of “utter-beyondness”; or, in other terms, when the response is felt to be inadequate (27–28). Religion is essentially an attitude or response determined by the discrimination of an element of “utterly beyondness” (30, 192); “The typical nuclear religious experience is thus a kind of aching helplessness” (134).

These quotations contain the author's contribution to the understanding of the essence of religion. What is it worth? Does it differentiate the other types of response from the religious? Does it, for instance, separate magic from religion? Not at all, and Flower is fully aware of it: “The essential psychological mark of religion” is, we are told, “that psychological character of the response which is present in the most primitive manifestations of superstition, whether magic, fetishism or animism, and in the most exalted forms of religious experience” (14). “It cannot be too strongly emphasized that, convenient as it is for us to distinguish magic from religion, there is no essential difference from the point of view of the psychological mechanism involved” (110).

Flower's “essential psychological mark” does not even differentiate science from religion. The realization of the “beyondness” of that which he strives to understand, the feeling of the ultimate inadequacy of hypotheses or theories he formulates and uses (for instance about the constitution of the atom), is an out-

standing experience of the modern scientist. Shall we then, accepting Flower's theory, say that, in so far as he senses inaccessible aspects of nature, the scientist assumes the religious attitude? If we should do so, we would be back where Herbert Spencer left the problem: "Religion," said he, "consists in the recognition of a mystery pressing for interpretation." The only important difference between him and Flower would be that the latter, inspired by the present behavioristic trend, instead of saying "the recognition," says the "response" or the "attitude" brought out by the recognition of a mystery. Thus, although a psychologist, the author ranges himself with the non-psychological school of Durkheim in so far as, like him, he minimizes the importance of the difference existing between magic and religion.

It should be observed that Flower does not really describe or define the nature or the type of the religious response; he merely describes that which elicits the response: it is a response to something recognized as utterly beyond any adequate response.

Now the religious, the magical, and the scientific types of behavior—all three, and not only the first two—issue or may issue out of the consciousness of a mystery; and all three are consistent with the continuance of the discrimination of a something in the situation to which the response is not fully adequate.

When we recognize our incapacity to make an adequate answer in the presence of a mysterious situation, we may either suffer a conflict of already established tendencies to action, all of which are checked by the realization of their inadequacy, the outcome is then an "aching helplessness"—that which Flower would have us regard as the essential mark of religion; or one of our habitual ways of acting may win over the others and then we respond in some more or less habitual manner, even though conscious, at least at first, that it is inadequate; or yet we may learn to make a new type of response.

We make what in my opinion is properly called a religious response when we attempt to meet the mysterious situation facing us, by establishing a personal, social relation with invisible great beings, usually called gods. George Fox was not a religious man because he was tormented by he knew not what, or because none of the ways proffered by his acquaintances for solving his dark problems suited him. His religious life began when he sought and found their solution in the establishment of intimate relations with a personal god.

That which Durkheim in the "Elementary Forms of Religious Life," and Flower in the volume under discussion have attempted,

is really not a characterization of the religious type of behavior; they have gone back of the religions and of magic in order to discover a root common to both; and they have succeeded. Flower has even found something common to magic, religion and science. But, then, why claim to have singled out the essential characteristic of religion!

These authors have done something similar to what a student of commerce would do, were he to find its essence in the desire for possession. He would not be wrong, but he would not have thrown any light on commerce in so far as it is different from industry, theft, courtship, etc., for all of these different types of activity are also characterized by the desire for possession.

Flower's book is exactly what the title says it is: "*An Approach to the Psychology of Religion*"; it remains outside religion.

JAMES H. LEUBA.

Bryn Mawr College.

SUBJECT INDEX

- Ability, Mental, Speed in, 595
 Aesthetics, 000
 American Psychological Association, Proceedings of, 125
 Animal Behavior, Effects of Inanition, 12
 Animal Experimentation, Precautions in, 487
 Animals, Habit formation and Higher Mental Processes in, 24
 Apparent Movement, 245
 Attention, 493
 Audition, 229
 Artistic Talent, Special, 265

 Behavior, Animal, Effects of Inanition, 12
 British Scientific Instruments, 480
 Character and Personality Tests, 422
 Child Psychology, 629
 Children's Drawings, Psychology of, 272
 Cutaneous and Kinaesthetic Senses, 569

 Drawings, Children's, Psychology of, 272

 Educational Psychology, 377
 Educational Tests, 407
 Effects of Inanition on Animal Behavior, 12
 Eidetic Type and Eidetic Imagery, 69
 Experimentation, Animal, Precautions in, 487

 First Psychological Laboratory, 445
 Frontal Lobes, Function of, 1
 Function of Frontal Lobes, 1

 Gestalt Psychology, 613
 Gland Thyroid, 341
 Glands, Parathyroids, 54

 Habit Formation in Animals, 24
 Higher Mental Processes in Animals, 24

 Imagery, Eidetic, 69
 Inanition, Effects of on Animal Behavior, 12
 Industry, Psychology in, 309
 Instruments, Scientific, 480
 Intelligence Tests, 389

 Kinaesthetic and Cutaneous Senses, 569
 Lobes, Frontal, Function of, 1

 Measurements and Tests in Music, 284
 Memory, 513
 Mental Ability, Speed in, 595
 Mirror Writing, 582
 Movement, Apparent, 245
 Music, Measurements and Tests in, 284

 Necrology, 302, 621
 Parathyroids, 54
 Pennsylvania, University of, First Psychological Laboratory at, 445
 Personality and Character Tests, 422
 Precautions in Animal Experimentation, 487
 Proceedings, American Psychological Association, 125
 Proceedings, Southern Society for Philosophy and Psychology, 462
 Proceedings of Western Psychological Association, 446
 Processes, Higher Mental in Animals, 24
 Psychological Necrology, 302, 621
 Psychology, Educational, 377
 Psychology in Industry, 309
 Psychology of Children's Drawings, 272

 Reasoning and Thought, 550
 Religion, 000

 Scientific Instruments, 480
 Sensations, Visual, 201
 Senses, Cutaneous and Kinaesthetic, 569
 Southern Society for Philosophy and Psychology, Proceedings of, 462
 Special Artistic Talent, 265
 Speed in Mental Ability, 595
 Talent, Special Artistic, 265
 Tests and Measurements in Music, 284
 Tests, Educational, 407
 Tests, Intelligence, 389
 Tests, Personality and Character, 422
 Theories of Audition, 229
 Thought and Reasoning, 550
 Thyroid Gland, 341
 Type, Eidetic, 69

 University of Pennsylvania, First Psychological Laboratory at, 445
 Visual Sensations, 201
 Western Psychological Association, Proceedings of, 446
 Writing, Mirror, 582

AUTHOR'S INDEX

- Anderson, R. N., 155
 Bagby, E., 464
 Bagwell, J. C., 179
 Baldwin, B. T., 185, 629
 Bayone, T. L., 182
 Bingham, W. V., 172
 Bishop, H. G., 150
 Blorn, E. C., 582
 Boring, E. G., 302, 621
 Bray, C., 155
 Brotemarkle, R. A., 105
 Brown, C. W., 155
 Brown, W., 446
 Brown, W. M., 465
 Buchler, K., 169
 Bunch, M. E., 162

 Carmichael, L., 180
 Cason, H., 167
 Chandler, A. R., 000
 Cronbach, A., 000
 Crosland, H. R., 453
 Culler, E., 143

 Dallenbach, K. M., 152, 493
 Darrow, C. W., 157
 Dashiell, J. F., 179, 466
 Dodge, R., 146
 Dorcus, R. M., 466
 Dwight, C. A. S., 467

 Edwards, A. S., 467

 Faris, E., 118
 Farnsworth, P. R., 458
 Fernald, G. M., 197
 Fernberger, S. W., 120, 121, 125, 372, 445
 Fillmore, E., 185
 Fisher, S. C., 459
 Fletcher, J. M., 468
 Flinn, H. L., 162
 Freeman, F. N., 186

 Gatto, F., 155
 Gaw, E. A., 458
 Gaw, F., 459
 Gilliland, A. R., 153
 Gloze, J. A., 153
 Glenn, S. L., 162
 Goodenough, F. L., 272

 Hamilton, E. L., 162
 Hamilton, H. C., 161
 Hartshorne, H., 422
 738

 Hathaway, S., 161
 Hegge, J. G., 187
 Henmon, V. A. C., 377
 Highsmith, J. H., 462
 Hoisington, L. B., 151
 Hollingworth, H. L., 179
 Hsiao, H. H., 613
 Huffman, P., 000
 Hulin, W. S., 361
 Hull, C. L., 184
 Husband, R. W., 452

 Isbell, R., 155
 Isreali, N., 110, 366, 368

 Jacobsen, C. F., 1
 Jensen, N. B., 456
 Jersild, A. T., 155
 Johnson, B., 157
 Johnson, H. M., 164, 470
 Jones, E. S., 177
 Jones, H. E., 183
 Jones, V., 407

 Karrer, E., 149
 Kelley, T. L., 166
 Kinder, E. F., 698
 Kingsbury, F. A., 191
 Kitson, H. D., 109
 Klüver, H., 69
 Kornhauser, A. W., 195
 Kwalwasser, J., 284

 Langfeld, H. S., 156
 Lashley, K. S., 147
 Leuba, J. H., 000
 Lewerenz, A. S., 455
 Liddell, H. S., 182
 Lindley, S., 12
 Lindsley, C. F., 452
 Longstaff, H. P., 155

 Marine, L., 113
 Mateer, F., 188
 May, M. A., 186, 422
 McClatchy, V. R., 472, 473
 McFarland, R. A., 595
 McGeoch, J. A., 160, 513
 McLaughlin, K. L., 460
 Meier, N. C., 170, 265
 Metcalf, J. T., 569
 Meyer, M. F., 105, 144, 473
 Miles, W. R., 155, 451, 480
 Miner, J. B., 474
 Morgan, J. J. B., 158
 Moss, F. A., 168
 Myers, G. C., 177

- Nelson, M. J., 377
Ogden, R. M., 261
Olson, W. C., 190
Outhit, M., 155

Pechstein, L. A., 196
Peterson, J., 475
Peterson, J. C., 175
Pintner, R., 106, 112, 117, 374, 389, 492
Porter, J. P., 174
Pratt, C. C., 550

Ritter, S. M., 172
Roberts, W. H., 453
Rockwell, J. G., 54, 341
Rogers, W. W., 476
Rosenow, C., 148
Ruch, F., 454
Ruckmick, C. A., 147, 229

Sanborn, H., 478
Seashore, R. H., 194, 454
Seward, G., 161
Sharp, W. L., 162
Shellow, S. M., 192
Sloan, L. L., 201
Slocombe, C. S., 172
Spence, R. B., 107
Squires, P. C., 245
Stanton, H. M., 193
Starr, H. E., 163
Stevens, H. C., 149
Stone, C. P., 12, 448

Stoy, E. G., 161
Strong, E. K., Jr., 193

Taylor, W. S., 173
Thurstone, L. L., 165
Todd, J. W., 450
Tolman, E. C., 24, 448
Town, C. H., 189

Updegraff, R., 161

Viteles, M. S., 309

Wallace, I. K., 161
Wallin, J. E. W., 176
Warren, H. C., 626
Watson, G. B., 111
Wellman, B., 178
Welty, R. E., 422
Wheeler, R. H., 159
Willoughby, R. R., 162
Woodrow, H., 181
Woods, E. L., 460
Woodworth, R. S., 167
Wylie, G. E., 154

Yarborough, J. U., 194
Yerkes, R. M., 182
Yoshioka, J. G., 447
Young, D., 490, 491
Young, K., 114
Young, P. C., 170
Young, P. T., 145, 487.

PRINCETON UNIVERSITY

DEPARTMENT OF PSYCHOLOGY

Courses are offered in systematic, physiological, experimental, genetic, abnormal, social, and educational psychology, and in the history of psychology. The staff and the graduate students take part in a weekly seminar and in weekly conferences on laboratory technique and current psychological literature.

Research in human and animal psychology and in mental measurement is conducted in Eno Hall, a new building devoted entirely to psychological work. This building is equipped with individual research rooms, dark-rooms, sound-proof room, library, studio, and machine shops.

Staff: C. W. Bray, C. C. Brigham, C. R. Brolyer, H. A. Cotton, E. B. Holt, W. S. Hulin, D. Katz, H. S. Langfeld, H. C. McComas, H. C. Warren, E. G. Wever.

For information concerning enrollment, courses, fellowships, and higher degrees, address

DEAN A. TROWBRIDGE, PRINCETON, N. J.

Psychological Review Publications

Original contributions and discussions intended for the Psychological Review should be addressed to

Professor Howard C. Warren, Editor PSYCHOLOGICAL REVIEW,
Princeton University, Princeton, N. J.

Original contributions and discussions intended for the Journal of Experimental Psychology should be addressed to

Professor Madison Bentley,
Editor JOURNAL OF EXPERIMENTAL PSYCHOLOGY,
Morrill Hall, Cornell University, Ithaca, N. Y.

Contributions intended for the Psychological Monographs should be addressed to

Professor Raymond Dodge, Editor PSYCHOLOGICAL MONOGRAPHS,
Kent Hall, Yale University, New Haven, Conn.

Reviews of books and articles intended for the Psychological Bulletin, announcements and notes of current interest, and books offered for review should be sent to

Professor S. W. Fernberger, Editor PSYCHOLOGICAL BULLETIN,
Univ. of Pennsylvania, Philadelphia, Pa.

Titles and reprints intended for the Psychological Index should be sent to

Professor Walter S. Hunter, Editor PSYCHOLOGICAL INDEX,
Clark University, Worcester, Mass.

All business communications should be addressed to

Psychological Review Company
Princeton, New Jersey.

THEORY OF THE EARTH

The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

The theory of the earth is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

The theory of the earth is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

THEORY OF THE EARTH

The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

The theory of the earth is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

The theory of the earth is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

The theory of the earth is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

The theory of the earth is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

The theory of the earth is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and place of their occurrence.

STR
\$1.0
The
GNA
Faj
Me

4
No
Faj
75
Ex
the
a
N.

4
49.
Fp
51.
of
W

5
Str
Pro
vill
75
Fr
of
arc
Fp

2
49.
Cu
of
Fr

6
Fr
54.
55.
of

6
Ca
Di
in
Ex
Fr
Fr

W
H
of
75
A
P

at
G
C
N

Psychological Monographs

VOL. X

40. Studies from the Johns Hopkins Psychological Laboratory. Edited by G. M. STRATTON. Pp. 104. \$1.00. 41. The Social Will. EDWIN ANDREW HAYDEN. Pp. iv + 93. \$1.00. 42. Studies from the Psychological Laboratory of the University of Chicago. The Effect of Achromatic Conditions on the Color Phenomena of Peripheral Vision. GRACE MAXWELL FERNALD. Pp. iv + 91. \$1.00. 43. Wellesley College Studies in Psychology, No. 1. A Study in Memorizing Various Materials by the Reconstruction Method. ELEANOR A. MCC. GAMBLE. Pp. xi + 211. \$2.25.

VOL. XI

44. Studies from the Psychological Laboratory of the University of Illinois. Vol. I. No. 1. Edited by STEPHEN S. COLVIN. Pp. vi + 177. \$1.75. 45. Ohio State University, Psychological Studies. Vol. I. No. 1. Edited by THOMAS H. HAINES. Pp. 71. 75 cents. 46. Studies from Psychological Laboratory of University of Chicago. An Experimental Study of Fatigue. C. S. YOKUM. Pp. vi + 130. \$1.25. 47. Studies from the Johns Hopkins Psychological Laboratory. The Determination of the Position of a Momentary Impression in the Temporal Course of a Moving Visual Impression. N. T. BURROW. Pp. 63. 65 cents.

VOL. XII

48. A Study of Sensory Control in the Rat. FLORENCE RICHARDSON. Pp. 124. \$1.25. 49. On the Influence of Complexity and Dissimilarity on Memory. HARVEY A. PETERSON. Pp. 86. \$1.00. 50. Studies in Melody. W. VAN DYKE BINGHAM. Pp. vi + 83. \$1.00. 51. Report of the Committee of the American Psychological Association on the Teaching of Psychology. Pp. 94. \$1.00. 52. Some Mental Processes of the Rhesus Monkey. WILLIAM T. SHEPHERD. Pp. 66. 75 cents.

VOL. XIII

53. Report of the Committee of the American Psychological Association on the Standardizing of Procedure in Experimental Tests. Pp. 108. \$1.00. 54. Tests for Practical Mental Classification. WILLIAM HEALY and GRACE MAXWELL FERNALD. Pp. viii + 54. 75 cents. 55. Some Types of Attention. H. C. MCCOMAS, JR. Pp. 84. 75 cents. 56. On the Functions of the Cerebrum: the Occipital Lobes. SHEPHERD IVORY FRANK and GONZALO R. LAFOREA. Pp. 118. \$1.25. 57. Association Tests: Being a Part of the Report to the American Psychological Association of the Committee on Standardizing Procedure in Experimental Tests. R. S. WOODWORTH and F. LYMAN WELLS. Pp. 86. 75 cents.

VOL. XIV

58. The Diagnosis of Mental Imagery. MADEL RUTH FERNALD. Pp. 160. \$1.50. 59. Autokinetic Sensations. HENRY F. ADAMS. Pp. 45. 50 cents. 60. A Study of Cutaneous After-Sensations. MARY H. S. HAYES. Pp. 89. \$1.00. 61. On the Relation of the Methods of Just Perceptible Differences and Constant Stimuli. SAMUEL W. FERNBERGER. Pp. 81. \$1.00.

VOL. XV

62. The Factors that Influence the Sensitivity of the Retina to Color. GERTRUDE RAND. Pp. 178. \$1.75. 63. Learning in Dementia Precox. EDWIN G. BORING. Pp. 101. \$1.00. 64. An Experiment in Linear Space Perception. FRANCIS N. MAXFIELD. Pp. 56. 75 cents. 65. The Form Board Test. REUEL H. SYLVESTER. Pp. 56. 75 cents. 66. The Influence of Stimulus Duration on Reaction Time. GEORGE E. WELLS. Pp. 68. 75 cents.

VOL. XVI

67. The Relation of Sensation to Other Categories in Contemporary Psychology. CARL RAHN. Pp. vi + 131. \$1.25. 68. The Effect of Adaptation on the Temperature Difference Limen. EDWINA ARROTT. Pp. 36. 50 cents. 69. University of Iowa Studies in Psychology. No. VI. Edited by CARL E. SEASHORE. Pp. 176. \$1.75. 70. An Experimental and Introspective Study of the Human Learning Process in the Mass. FLEMING A. C. PERRIN. Pp. 104. \$1.00. 71. On the Psychophysiology of a Prolonged Fast. HERBERT S. LANGFELD. Pp. 62. 75 cents.

VOL. XVII

72. An Experimental Study of Decision Types and their Mental Correlates. JAMES W. BRIDGES. Pp. 73. 75 cents. 73. The Genetic Aspect of Consonance and Dissonance. HENRY T. MOORE. Pp. 68. 75 cents. 74. The Influence of Distractions on the Formation of Judgments in Lifted Weight Experiments. DAVID MITCHELL. Pp. 53. 50 cents. 75. Yale Psychological Studies, New Series, Vol. II, No. 1. Edited by ROSEWELL P. ANGLIER. Pp. 155. \$1.75. 76. The Measurement of Attention. HERBERT WOODROW. Pp. 158. \$1.50.

VOL. XVIII

77. Mental and Physical Measurements of Working Children. HELEN T. WOOLLEY and CHARLOTTE R. FISHER. Pp. 247. \$2.50. 78. Recognition and Discrimination. GUSTAVE A. FEINGOLD. Pp. 128. \$1.25. 79. Alternation and Interference of Feelings. CHESTER ELIJAH KELLOGG. Pp. 94. \$1.00. 80. A Study in Association Reaction and Reaction Time. HARRY W. CRANE. Pp. 75. 75 cents.

VOL. XIX

81. I. Symptomatological Differences Associated with Similar Cerebral Lesions in the Insane. 11. Variations in Distribution of the Motor Centers. SHEPHERD IVORY FRANK. Pp. 163. \$1.50. 82. The Psycho-physiological Effect of the Elements of Speech in Relation to Poetry. ROBERT C. GIVLER. Pp. 132. \$1.25. 83. Standardization of Tests for Defective Children. CLARA SCHMITT. Pp. 181. \$1.75. 84. A Study of Retroactive Inhibition. J. EDGAR DECAMP. Pp. 60. 75 cents.

VOL. XX

85. A Horizontal-Vertical Illusion of Brightness in Foveal Vision Apparent in Astronomical Observations of the Relative Luminescence of Twin Stars. JOSEPH W. HAYES. Pp. 126. \$1.25. 86. Recognition: A Logical and Experimental Study. ROBERTS B. OWEN. Pp. 154. \$1.50. 87. Formal Discipline from the Standpoint of Experimental Psychology. JOHN EDGAR COOVER. Pp. 307. \$3.00. 88. Learning Tests with Deaf Children. RUDOLPH PINTNER and DONALD G. PATTERSON. Pp. 68. 75 cents.

VOL. XXI

89. Mental Measurements of the Blind. THOMAS H. HAINES. Pp. 56. \$1.00. 90. The Process of Generalizing Abstraction; and Its Product, the General Concept. SARAH CAROLYN FISHER. Pp. 212. \$2.00. 91. Acquisition of Skill. W. H. BATSON. Pp. 92. \$1.00. 92. Studies in Social and General Psychology from the University of Illinois. Edited by MADISON BENTLEY. Pp. 118. \$1.00.

VOL. XXII

93. Voluntary Isolation of Control in a Natural Muscle Group. J. C. BARNER. Pp. 50. 50 cents. 94. Psycho-Motor Norms for Practical Diagnosis. J. E. W. WALLIS. Pp. 101. \$1.00. 95. Apparatus and Experiments on Sound Intensity. A. P. WEISS. Pp. 59. 75 cents. 96. Wellesley College Studies in Psychology No. 2. Edited by ELEANOR A. MCC. GAMBELL. Pp. 191. \$1.75. 97. Children's Association Frequency Tests. HERBERT WOODROW and FRANCES LOWELL. Pp. 110. \$1.25.

VOL. XXIII

98. Scientific Study of the College Student. HARRY DEXTER KITSON. Pp. 81. 75 cents. 99. Whole vs. Part Methods in Motor Learning. A Comparative Study. LOUIS AUGUSTUS PECHSTEIN. Pp. 88. 75 cents. 100. Yale Psychological Studies, New Series, Vol. II, No. 2. Edited by ROWELL P. ANGLIER. Pp. 159-331. \$1.75. 101. The Vertical-Horizontal Illusion. SARAH MARGARET RITTER. Pp. 114. \$1.25.

VOL. XXIV

102. Two Studies in Mental Tests. I. Variable Factors in the Binet Tests. II. The Diagnostic Value of Some Mental Tests. CARL C. BRIGHAM. Pp. 254. \$2.50. 103. Radiometric Apparatus for Use in Psychological and Physiological Optics. C. E. FERRIS and GERTRUDE RAND. Pp. xvi + 45. 75 cents. 104. Transfer of Training and Retroaction. LOUIE WINFIELD WEBB. Pp. 99. \$1.00. 105. Studies from the Psychological Laboratory of the University of Chicago—Reliability of Mental Tests in the Division of an Academic Group. BEARDSLEY RUMEL. Pp. 63. 75 cents. 106. Analysis of Mental Functions. CRY ROSENOW. Pp. 43. 50 cents.

VOL. XXV

107. Retroactive Inhibition as Affected by Conditions of Learning. EDWARD CHASE TOLMAN. Pp. 50. 75 cents. 108. University of Iowa Studies in Psychology, No. 1. CARL E. SHANBRO. Pp. 163. \$1.75. 109. A Higher Scale of Mental Measurement and Its Application to Cases of Insanity. A. J. ROSANOFF, HELEN E. MARTIN and ISABEL E. ROSANOFF. Pp. 113. \$1.50. 110. An Experimental Study of Attention from the Standpoint of Mental Efficiency. SHOAN MASUZO FUKUYA. Pp. 48. 50 cents. 111. The Interference of Will-Impulses. ABRAHAM A. ROSACK. Pp. 182. \$1.75.

VOL. XXVI

112. Psychology of Clothing. GEORGE VAN NESS DEARBORN. Pp. vi + 72. \$1.15. 113. Some Imaginal Factors Influencing Verbal Expression. ESTHER E. SHAW. Pp. 151. \$2.00. 114. Learning Curve Equation. L. L. THURSTONE. Pp. 51. 75 cents. 115. The Effect of Alcohol on the Intelligent Behavior of the White Rat and Its Progeny. ADA HART ARLITT. Pp. 50. 75 cents. 116. The Form of the Learning Curves for Memory. CONRAD L. KJERSTAD. Pp. 80. \$1.35. 117. An Intraoperative Analysis of the Process of Comparing. SAMUEL W. FRENNBERGER. Pp. 161. \$2.40.

VOL. XXVII

118-122. Psychological Studies from the Catholic University of America. Edited by EDWARD A. PACE. \$5.50 per volume. 118. A Study and Analysis of the Conditioned Reflex. IGNATIUS A. HAMEL. Pp. 66. 75 cents. 119. Image and Meaning in Memory and Perception. THOMAS VERNER MOORE. Pp. 230. \$2.75. 120. The Correlation Between Memory and Perception in the Presence of Diffuse Cortical Degeneration. THOMAS VERNER MOORE. Pp. 49. 55 cents. 121. Clinical and Psychoanalytic Studies: I. Conscious and Unconscious Factors in Symbolism. PAUL HANLY PURFEY. II. Hypnotic Analogies. THOMAS VERNER MOORE. III. Concomitants of Amentia. MIRIAM E. LONGHRAN. Pp. 143. \$1.65. 122. The Development of Meaning. AGNES R. McDONOUGH. Pp. 113. \$1.25.

VOL. XXVIII

123. Quantitative Aspects of the Evolution of Concepts. CLARK L. HULL. Pp. 81. \$1.25. 124. An Experimental Analysis of a Case of Trial and Error Learning in the Human Subject. GEORGE S. SNOODY. Pp. 78. \$1.25. 125. Work with Knowledge of Results versus Work without Knowledge of Results. GEO. F. ARPS. Pp. 41. 65 cents. 126. Individual Differences in Finger Reactions. ESTHER L. GATEWOOD. Pp. 43. 65 cents. 127. The Law of Visual Sensation in Its Relation to Wave Lengths and Intensity of Light. MARION A. RILLER. Pp. 101. \$1.50. 128. Studies from the Psychological Laboratory of the University of Chicago—Some Factors Determining the Degree of Retroactive Inhibition. EDWARD STEVENSON ROBINSON. Pp. 57. 90 cents. 129. The Higher Mental Processes in Learning. JOHN C. PETERSON. Pp. 121. \$1.80.

VOL. XXIX

129. A Qualitative Analysis of the Process of Forgetting. HAROLD R. CROSLAND. Pp. 129. \$2.35. 131. The Growth of Intelligence. EDGAR A. DOLL. Pp. 130. \$3.00. 132. Mental and Educational Measurements of the Deaf. JEANNETTE CHASE REAMER. Pp. 130. \$2.00. 133. A Socio-Psychological Study of Fifty-three Supernormal Children. WILLIAM T. ROOT. Pp. 134. \$2.75.

VOL. XXX

134. A Tentative Standardization of a Hard Opposites Test. MARIE HACKL MEANS. Pp. 65. \$1.00. 135. Studies from the Psychological Laboratory of the University of Chicago—The Influence of the Time Interval Upon the Rate of Learning in the White Rat. JOSEPH U. YARBROUGH. Pp. 53. 75 cents. 136. Critical and Experimental Studies in Psychology from the University of Illinois. Edited by MADISON BENTLEY. Pp. 94. \$1.50. 137. The Definition of Intelligence in Relation to Modern Methods of Mental Measurement. J. LEROY STOCKTON. Pp. 116. \$1.75. 138. Personal Selection of Graduate Engineers. BRUCE V. MOORE. Pp. x + 85. \$1.50. 139. The Interrelation of Some Higher Learning Processes. B. F. HAUGHT. Pp. 71. \$1.25.

VOL. XXXI

140. University of Iowa Studies in Psychology. No. VIII. Edited by CARL E. SHASORE. Pp. iv+323. \$4.00. 141. Psychological Studies from the Catholic University of America. PERCY BYSSHE SHELLEY. An Introduction to the Study of Character. THOMAS V. MOORE. Pp. 62. \$1.00. 142. The Condition of Retention. C. W. LUM. Pp. 57. \$1.50.

VOL. XXXII

143. Memory Defects in the Organic Psychoses. JOHANN LILJENCRAFTS. Pp. 77. \$1.25. 144. Psychological Studies from the Catholic University of America. Edited by EDWARD A. PACE. A Study of the Moral Development of Children. MARIE CECILIA MCGRATH. Pp. 190. \$3.00. 145. Studies from the Psychological Laboratory of Oberlin College. Edited by RAYMOND H. STETSON. Pp. 58. 90 cents. 146. Studies from the Psychological Laboratory of the University of Chicago—Certain Factors in the Development of a New Spatial Co-ordination. MARGARET WOOSTER. Pp. 96. \$1.50. 147. Studies from the Psychological Laboratory of the University of Chicago—The Influence of Mechanical Guidance upon Maze Learning. HELEN LOIS KOCH. Pp. 113. \$1.75.

VOL. XXXIII

148. The Effect of Manual Guidance upon Maze Learning. KATHERINE RYA LUDGATE. Pp. 65. \$1.00. 149. The Formulation and Standardization of a Series of Graded Speech Tests. SARAH MAE STINCHFIELD. Pp. 54. 75 cents. 150. The Influence of Tobacco Smoking on Mental and Motor Efficiency. CLARK L. HULL. Pp. 150. \$3.25. 151. The Personalities of the Socially and the Mechanically Inclined. MAX FREYD. Pp. 101. \$1.50. 152. The Intellectual Resemblance of Twins. CURTIS MERRIAM. Pp. 58. \$3.00. 153. A Group Intelligence Scale for Primary Grades. FORREST ALVA KINGSBURY. Pp. 60. \$1.00. 154. The Influence of Tuition in the Acquisition of Skill. TAU LIEN WANG. Pp. 51. \$1.75.

VOL. XXXIV

155. Splitting the Mind: An Experimental Study of Normal Men. CHARLES T. BURNETT. Pp. 132. \$2.00. 156. Relation of the Rate of Response to Intelligence. J. A. HIGHSMITH. Pp. 32. \$.50. 157. An Experimental Study of Retention and Its Relation to Intelligence. ANG LANFEN LEE. Pp. 45. \$1.00. 158. The Energy Value of the Minimum Visible Chromatic and Achromatic for Different Wave-Lengths of the Spectrum. MARGARET M. MONROE. Pp. 60. \$1.00. 159. An Experimental Study of Some Behavior Traits of the Potentially Delinquent Boy. ALBERT SYDNEY BAURENHEIMER. Pp. 107. \$1.50. 160. The Influence of the Factor of Intelligence on the Form of the Learning Curve. GILES MURREL RUCH. Pp. 53. \$1.00. 161. Further Studies in Retroactive Inhibition. ERNEST BURTON SKAGGS. Pp. 60. \$.90.

VOL. XXXV

162. On the Melodic Relativity of Tones. OTTO ORTMANN. Pp. 47. \$.55. 163. Studies in Psychology from the University of Illinois. Pp. 151. \$2.25. 164. Comprehensive Units in Learning Typewriting. J. W. BARTON. Pp. 45. \$.75. 165. An Experimental Study of the Self in Psychology. ELISABETH WHEELER AMEN. Pp. 72. \$.75. 166. A Study of the Test-Performance of American, Mexican, and Negro Children. HELEN LOIS KOCH and BETTA SIMMONS. Pp. 116. \$1.75.

VOL. XXXVI

167. University of Iowa Studies in Psychology. No. IX. Edited by CARL E. SHASORE. Pp. 264. \$3.00. 168. University of Iowa Studies in Psychology. No. X. Edited by CARL E. SHASORE. Pp. 114. \$1.75. 169. Attitude in Relation to Learning. ELLEN B. SULLIVAN. Pp. 140. \$2.25.

VOL. XXXVII

170. The Creative Imagination of Théophile Gautier: A Study in Literary Psychology. LOUISE B. DILLINGHAM. Pp. 355. \$4.50. 171. An Experimental Study of Affects and Associations Due to Certain Odors. J. H. KENNETH. Pp. 64. \$1.00. 172. Individual Differences in Imagery. CHARLES H. GRIFFITHS. Pp. 91. \$1.50.

VOL. XXXVIII

173. A Study of the Purkinje Phenomenon. LOUISE L. SLOAN. Pp. 86. \$1.25. 174. A Quantitative Study of Chromatic Adaptation. MARY RUTH ALMACK. Pp. 118. \$1.75. 175. Experimental Analysis of the Sensori-Motor Consequences of Passive Oscillation: Rotary and Rectilinear. ROLAND C. TRAVIS and RAYMOND DODGE. Pp. 96. \$1.40. 176. University of Iowa Studies in Psychology. No. XI. Edited by CHRISTIAN A. RUCKMICK. Pp. 231. \$3.55.

VOL. XXXIX

177. Cerebral Destruction in Its Relation to Maze Learning. NORMAN CAMERON. Pp. 68. \$1.00.

Directory of American Psychological Periodicals

- American Journal of Psychology**—Ithaca, N. Y.; Cornell University.
Subscription \$6.50. 624 pages ann. Ed. by M. F. Washburn, K. M. Dallenbach, Madison Bentley and E. G. Boring.
Quarterly. General and experimental psychology. Founded 1887.
- The Pedagogical Seminary and Journal of Genetic Psychology**—Worcester, Mass.; Clark University Press. Subscription \$7.00. 700 pages ann. Ed. by Carl Murchison. Quarterly. Child behavior, differential and genetic psychology. Founded 1891.
- Psychological Review**—Princeton, N. J.; Psychological Review Company.
Subscription \$5.50. 480 pages annually.
Bi-monthly. General. Founded 1894. Edited by Howard C. Warren.
- Psychological Bulletin**—Princeton, N. J.; Psychological Review Company.
Subscription \$6.00. 720 pages annually. Psychological literature.
Monthly. Founded 1904. Edited by Samuel W. Fernberger.
- Psychological Monographs**—Princeton, N. J.; Psychological Review Company.
Subscription \$6.00 per vol. 500 pp. Founded 1895. Edited by Raymond Dodge.
Published without fixed dates, each issue one or more researches.
- Psychological Index**—Princeton, N. J.; Psychological Review Company.
Subscription \$4.00. 300-400 pp. Founded 1895. Edited by W. S. Hunter.
An annual bibliography of psychological literature.
- Journal of Philosophy**—New York; 515 W. 116th St.
Subscription \$4. 728 pages per volume. Founded 1904.
Bi-weekly. Edited by F. J. E. Woodbridge, Wendell T. Bush and H. W. Schneider.
- Archives of Psychology**—Columbia University P. O., New York City.
Subscription \$6. 500 pp. ann. Founded 1906. Ed. by R. S. Woodworth.
Published without fixed dates, each number a single experimental study.
- Journal of Abnormal and Social Psychology**—Albany, N. Y.
Subscription \$5; foreign \$5.25. Boyd Printing Company. Ed. by Morton Prince. Quarterly. 432 pages ann. Founded 1906. Abnormal and social.
- Psychological Clinic**—Philadelphia; Psychological Clinic Press.
Subscription \$3.00. 288 pages. Ed. by Lightner Witmer. Founded 1907.
Without fixed dates (9 numbers). Orthogenics, psychology, hygiene.
- Training School Bulletin**—Vineland, N. J.; The Training School.
Subscription \$1. 160 pp. ann. Ed. by E. R. Johnstone. Founded 1904.
Monthly (10 numbers). Psychology and training of defectives.
- Comparative Psychology Monographs**—Baltimore; Williams & Wilkins Co.
Subscription \$5. 500 pages per volume. Edited by W. S. Hunter.
Published without fixed dates, each number a single research.
- Psychoanalytic Review**—Washington, D. C.; 3617 10th St., N. W.
Subscription \$6. 500 pages annually. Psychoanalysis.
Quarterly. Founded 1913. Ed. by W. A. White and S. E. Jelliffe.
- Journal of Experimental Psychology**—Princeton, N. J.
Psychological Review Company, 500 pages annually. Experimental.
Subscription \$6.00. Founded 1916. Bi-monthly. Ed. by Madison Bentley.
- Journal of Applied Psychology**—Baltimore, Md. Williams & Wilkins Co.
Subscription \$5. 400 pages annually. Founded 1917.
Quarterly. Edited by James P. Porter and William F. Book.
- Journal of Comparative Psychology**—Baltimore; Williams & Wilkins Co.
Subscription \$5. 500 pages annually. Founded 1921.
Bi-monthly. Edited by Knight Dunlap and Robert M. Yerkes.
- Genetic Psychology Monographs**—Worcester, Mass. Clark University Press.
Subscription \$7.00 per volume. Two volumes per year, 600 pages each.
Ed. by Carl Murchison. Monthly. Each number one complete research.
Child behavior, differential and genetic psychology. Founded 1925.
- Psychological Abstracts**—Eno Hall, Princeton, N. J. Edited by W. S. Hunter.
Subscription \$6.00. Monthly. 600 pages annually. Founded 1927.
- Journal of General Psychology**—Worcester, Mass. Clark University Press.
Subscription \$7.00. 600-700 pages annually. Ed. by Carl Murchison.
Quarterly. Experimental, theoretical, clinical, and historical psychology.
Founded 1927.

